REPORT RESUMES

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THE UNIVERSITY FACULTY AND EDUCATIONAL TELEVISION--HOSTILITY, RESISTANCE, AND CHANGE, A SOCIAL PSYCHOLOGICAL INVESTIGATION IN DEPTH.
BY- EVANS, RICHARD I. AND OTHERS
HOUSTON UNIV., TEXAS
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FACULTY RESISTANCE TO THE USE OF EDUCATIONAL TELEVISION WAS THE FOCAL POINT OF AN INVESTIGATION DIRECTED TOWARD EXPLORING ATTITUDES AND VALUES OF PROFESSORS AND CONDITIONS WHICH MAY PRECIPITATE ATTITUDE MODIFICATION. AN ADAPTATION OF THE OSGOOD SEMANTIC DIFFERENTIAL PLUS A SERIES OF "TEACHING BEHAVIOR" ITEMS WAS ADMINISTERED TO THE FACULTY OF A UNIVERSITY. ATTITUDES TOWARD AN ARRAY OF CONCEPTS, INCLUDING THE USE OF TELEVISION, WERE MEASURED ON EVALUATIVE, POTENCY, AND ACTIVITY DIMENSIONS. COMPARISONS BETWEEN PROFESSORS FAVORABLE AND UNFAVORABLE IN THEIR ATTITUDES TOWARD TELEVISION INSTRUCTION WERE MADE ON THE BASIS OF THE VARIABLES MEASURED. A FACTOR ANALYSIS OF ABOUT 300 RESPONSES TO THE OSGOOD ITEMS WAS MADE. THE STUDY ALSO INVOLVED TWO DEPARTMENTS WHICH HAD BEEN UNWILLING TO BECOME INVOLVED IN TELEVISION INSTRUCTION. THESE DEPARTMENTS PARTICIPATED IN AN OSTENSIBLY INTENSIVE IMPROVEMENT OF A TEACHING PROGRAM WHICH INCLUDED AN EVALUATION OF THE VIDEO TAPE RECORDER FOR SELF-IMPROVEMENT OF TEACHING. SOME OF THE FINDINGS WERE--(1) THERE WAS EVIDENCE OF AN OVER-RATING BY THE FACULTY OF ITS TEACHING SKILL AND HARSH JUDGMENT OF MEMBERS WHO ERR, (2) FORCED-COMPLIANCE SITUATIONS APPEARED TO MODIFY TEACHING BY TELEVISION IN A FAVORABLE DIRECTION, AND (3) MARKED DIFFERENCES WERE NOTED BETWEEN THOSE PROFESSORS WHO WERE FAVORABLE TO TELEVISION AND THOSE UNFAVORABLE. THE VIDEO TAPE RECORDER EMERGED AS A PROMISING TECHNIQUE FOR THE SELF-IMPROVEMENT OF FACULTY INSTRUCTION. (JC)

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The UNIVERSITY FACULTY and EDUCATIONAL TELEVISION:

Hostility, Resistance & Change

A SOCIAL PSYCHOLOGICAL INVESTIGATION IN DEPTH

THE UNIVERSITY FACULTY AND EDUCATIONAL TELEVISION:

HOSTILITY, RESISTANCE, AND CHANGE

A Social Psychological Investigation in Depth

Richard I. Evans, Ph.D.
Ronald G. Smith, B.A.
William K. Colville, B.A.

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Principal Investigator

Richard I. Evans, Ph.D.
Professor of Psychology
University of Houston

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RESEARCH STAFF

PRINCIPAL INVESTIGATOR

Dr. Richard I. Evans

GRADUATE RESEARCH ASSISTANTS

Ronald Smith
Mary Ellen Williams
Monna W. Ramsey
Chester May
Noble Enete
Joseph Fuller

STATISTICAL CONSULTANTS

Dr. Samuel Pinneau
Dr. Charles Moore

INTERVIEW TEAM

Dr. Daniel E. Sheer
Dr. Laurence S. McGaughran
Dr. Samuel Pinneau

TELEVISION PRODUCTION COORDINATOR

Raymond T. Yelkin[1]

FILM PRODUCTION

James Bauer

DATA COORDINATOR

William Colville

PROJECT SECRETARY

Betsy Gammill Gandy
Joyce Brady

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[1] Mr. Yelkin's death shortly after the experimental phase of the project was a serious loss to all involved. He would have been able to add a great deal to the interpretation of many facets of the report. It was agreed by all that he did a superb job in perhaps one of the most difficult aspects of the investigation.

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INTRODUCTION

Science and technology already peer at the burden of Man's ignorance from the dark side of the moon, and the earth may soon become a taunt, tribal drum, transmitting messages to any of its parts with the speed of light. Although it is now quite commonplace to mouth superlatives concerning space ventures, the projected world system of communication satellites will unquestionably be an epochal event.

Yet, there seems to be an almost primeval resistance to this visionary system of modern communication from the historically intellectual atmosphere of American universities. (We must indeed consider an attitude somewhat primeval, or at least medieval, when television was referred to during the present investigation as an "instrument of the devil!")

Great difficulty has been encountered by virtually all teaching institutions which are attempting to use instructional television (ITV) in their curricula. The resistance seems to fall into two categories: (1) an apathy, or perhaps "irrelevancy" concerning ITV as an additional teaching device, or (2) an outright hostility and repudiation of ITV regardless of its applications. The introduction to THE YEARBOOK OF EDUCATION is more concise on the subject, if less gentle:

> "Inventions making possible the wider diffusion of knowledge have usually been attacked by power elites - the suspicion, criticism, and denigration of radio, television, and cinema by the upper classes and the most highly educated classes of today may perhaps be cited as an example." (1960, pp. 8)

The specific attitudes of the educators, obviously rooted in complex anxieties, suspicions, and possibly something no more graceful than ignorance, have seriously jeopardized the growth of ITV in a number of important realms of education. Indeed, as is reflected in the expressed negative attitudes to be seen later in the present report, many educators view instructional television in patterns of threat and suspicion analogous only to the spectacle of a horse in the early 1900's approaching its first automobile.

A recent report examines what seems to be the primary consideration: "Serious teacher shortages already exist. In the immediate future, the existing shortages of well-qualified teachers, school buildings, and facilities will become acute. In view of the rapidly mounting population. . educators and some laymen are looking to the mass media, and especially to television and film, as a possible way to alleviate the problem of teacher shortages by bringing capable, well-prepared teachers to larger numbers of students." (Norberg, 1960, pp. 274)

The teacher shortage is the immediate consideration, but other factors are compounded daily. Whole cultures, whole continents crash violently together physically, but remain mentally rent by prejudice and distrust that can only be bridged by communication. Edward R. Murrow, head of USIA, said in a recent television interview while referring to a nearly completed U. S. radio transmitter in Africa, that future historians may nominate the transistor radio as the single most valuable invention of our century.

The skeptical educator, probably with just cause, is weary of being bombarded with "communication" theories. What does it mean to him and the demands of his day-in and day-out teaching load? THE YEARBOOK OF EDUCATION brings the correlation of ITV and communication into realistic focus:

> "It is clear that in this area there is ample room for both clear-sighted analysis and far-reaching empirical research. Educators should be prepared in all cases clearly to formulate the aims of teaching which they envisage, and then to consider what channels of communication they see best suited to the attainment of their objectives, remembering that simplicity and directness are preferable to, and more effective than, complexity and involution." (1960, pp. 13)

Discovery of the pre-historic wall paintings in the caves at Altimira, Spain, was in many ways an anthropological contradiction. For the first time physical and social scientists alike, from the sheer graphic impact of the paintings, were able to project to an era they had previously concluded to be savage and rudimental. They found instead a culture which must have been intellectually unique. Today, two hundred feet of celluloid moving through a machine at 24 frames a second illuminates the 20th century paradox of a civilized, enlightened Germany, committing atrocities prehistoric in their brutality.

These two examples, although several hundred thousand years apart, represent essentially the same thing - knowledge by mediate experience. Palmer condenses the mediate-immediate dimensions in a few short paragraphs:

> "What comes to us as immediate experience is supplemented in the twentieth century by mediate experience gained, for example, from still pictures, radio, and film, and it remains to consider what these sources of experience can give. Immediate experience and mediate experience: between them, these two sources of experience can give meaning to that vast body of information which is at once the triumph and the educational problem of our age. Without them both, knowledge

> degenerates into verbalism....... nevertheless, I suggest that the unique contribution of the audio-visual media lies in the enrichment of experience. Through immediate experience we take the school to the world; but there are limits - of time and space and possibility. Through mediate experience we bring the world to the school, not in sensory completness, but to a degree that often serves our purpose." (Palmer, 1960, pp. 65 & 70)

In spite of this apparent academic inertia, many educators have always attempted to transcend traditional teaching roles. Many universities are encouraging research and experimentation in new instructional media despite the usual impecunity that shrouds their operation.

At no other time in history has education had the means to reach as far as it has always needed. It may not please us, but we must continually remind ourselves by any of the media, that although our wall caves are now air-conditioned and our wall paintings illuminated from above, we still have the primal capacity to step quietly outside and sink a stone ax into our neighbor's head.

THE PROBLEM

As we move from the general to the specific, from the abstract to the empirical, we find an abundance of ITV euphoria, or hostility. But even before fully defining the problems and procedures relevant to the present investigation, an effective, if precedent-breaking preview might well give the reader an interesting "gestalt" of the attitudes of professors from several other studies as compared to the present results.

To give the reader such an overview, data in the following table is presented in gross terms without reference to frequency of response. However, even such an impressionistic statement of professors' attitudes toward teaching by ITV indicates considerable universality, and appears to be supportive of our contention that extreme views toward the use of this medium are present.

Table 1

Comparisons Between Professors' Attitudes Toward ITV In the Present Study and Four Previous University Studies

CODE:

Abbreviation	Study	Television Method Employed
Hou.	University of Houston	Video-Tape and Studio Playback Only
Mi.	Miami University	Closed-Circuit Television
Ore.	Oregon's State System of Higher Education	Inter-Institutional (Four Participating Schools)
P-1	Pennsylvania State University, Project No. 1	Closed-Circuit Television
P-2	Pennsylvania State University, Project No. 2	Closed-Circuit Television

Category — Study[1]

GF = General Faculty

TEI = Television-Experienced Instructor

Economic Factors	Hou.	Mi.	Ore.	P-1	P-2
Favorable					
Economy of staff and facilities: saves time, expense, energy, or space; productivity or faculty members per hour of class instruction can be increased; more efficient use of visual and demonstration; more material covered; lectures can be re-used (caution re: royalty arrangements); should make it practical for faculty members to have some assistance in teaching; working relationships between TV and Audio staffs satisfactory; or reduce teacher shortage.	GF TEI	GF TEI	GF	GF	GF
Reaches more students: teach greater number or answer to increased enrollments.	GF TEI	GF TEI	GF		GF
Unfavorable					
Not economical: no manpower was saved considering the amount of auxiliary help necessary; no saving in time; required more preparation; expensive cost-wise; use of instructional television should be differed until it becomes practically necessary; or requires special training.	GF TEI		GF	TEI	
Will partially replace millions of dollars spent for education under guise of public relations.	GF				

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1. Experimental Study in Instructional Procedures, Miami University, Oxford, Ohio, 1960; Instructional Television Research Report One and Two: An Investigation of Closed-Circuit Television for Teaching University Courses, The Pennsylvania State University, University Park, Pennsylvania, 1958; Inter-Institutional Teaching by Television in the Oregon State System of Higher Education, Report No. 1, 1957-1959.

Instructor Factors	Hou.	Mi.	Ore.	P-1	P-2
Favorable					
Rewarding: some respond favorably to having themselves and their work widely observed; greater sense of personal satisfaction felt by some; or offers a challenge.	GF	TEI		GF TEI	GF
Unfavorable					
Fears of inadequacy: self-conscious; concern about high degree of visibility of each TV teacher; or adverse criticism by faculty.	TEI	TEI	GF		GF
Oppose TV because of favorable experiences with large classes taught.					GF
Preparation Time and Strain Factor: increased or too much preparation required; extra training necessary; teaching before camera will increase stress on instructor already under strain; specific traumatic experiences; disturbed by mechanics; if load lighter, wouldn't object; or restriction in use of blackboard requires changing habits of instructors.	GF TEI	GF TEI	TEI	GF TEI	GF
Restrictions and Handicaps: freedom of expression limited; "psychological distance" is severe handicap; loss of psychic "income"; or not rewarding for teacher.		GF TEI	GF	GF TEI	
Role and Status: inferior role of staff member as section leader; detrimental to status of professor; loss of teacher personality; or TV dehumanizes instructor.			GF	GF	GF

Instructor-Administration Factors

Favorable

None

Instructor-Administration Factors	Hou.	Mi.	Ore.	P-1	P-2
Unfavorable					
Administrative problems: too much administrative duty involved; program launched with insufficient prior study; scheduling; impossible to discover talent; unsure of obtaining departmental assistance and full administrative support; cure-all attitude by administration; lack of time for preparation; or will lead to increase of teacher-load.	GF		GF	GF	GF
Faculty: limits number of qualified instructors; could lead to training too few; faculty increase better than TV; or resistance of faculty to present challenge which TV offers.	TEI		GF	GF	
Departmental considerations: dissension within and between departments; faculty will develop "star system"; or, professional rivalry, non-TV compared to TV faculty.			GF	GF	
Threat to job security: TV will lead to unemployment; threat by public viewing; loss of faculty who do good job; or need assurance that instructor will not be replaced.	GF TEI		GF	GF	
Instructor-Student Factors					
Favorable					
Promote student interest.			GF		
Unfavorable					
Impersonal: TV lacks: interpersonal relationship, student participation, questions, discussion, interaction, recitation; lack of contact, students can't challenge; student identity lost; instructors miss contacts and supportive reactions with students; no rapport; or stimulation lacking.	GF TEI	GF TEI	GF TEI	GF TEI	GF
No feedback: to judge teaching effectiveness or to pace material presented; or barriers interposed between instructors and students.	GF	GF TEI	GF TEI	GF	GF
Students: discipline problem; opposition and resentment of television; or seriously inhibited in originating room in closed circuit television.	GF			TEI	GF

Curriculum Evaluations	Hou.	Mi.	Ore.	P-1	P-2
Intangible Factors					
Favorable					
None					
Unfavorable					
Loss of full influence of instruction: ability to teach students to reason and communicate is inferior; students accept uncritically a "lecture authority"; can't develop students' ability of critical thinking; not as much overall growth and development as in conventional class; there were unmeasurable characteristics of instruction; or full "college education" and the "feel" or the subject can't be presented over TV.	GF	TEI	GF	TEI	GF
Learning Factors					
Favorable					
Good effects on learning; fewer distractions and can be viewed at home; basic concepts learned as well as in conventional class; average grades and results as good as or better than classroom; student preference for TV; transference of more responsibility to student; or may promote standardization of course content.	GF TEI	TEI	GF		GF
Unfavorable					
Bad effects on learning: bad learning environment; may promote automation, standardization; commercializes education and weakens - produces mass medocrity; learning by television is non-permanent; loss of social aspect of learning; passive absorption - pouring in; bad for introductory courses; is boring; student attitude to TV is poor; misinterpretation of what is being said because of insufficient background; teaching facts rather than concepts; controversial viewpoints can't be presented; or lack of individual attention.	GF TEI	GF TEI	GF	GF	GF

Curriculum Evaluations (Cont.)	Hou.	Mi.	Ore.	P-1	P-2
Method and Material					
Favorable					
Better teacher preparation and organization: Avoids duplication, opportunity for restructuring (if time is provided for this); develops new techniques in teaching, comparison of different classroom procedures; makes team teaching possible; provides less detail (reports and papers); provides use of 2-way TV; gains in terms of preparation and quality of lectures; or allows less abstraction.	TEI		GF TEI	GF	GF
Easier to teach.					GF
Enriches and improves instruction: good supplement and visual aid; outstanding lecturers available to all; offers advantages of demonstrations, panels, interviews, etc.; teaching aid; broader and more orderly presentation of material; spreads benefits among institutions of staff and equipment; or advantages of "front row seating".	GF TEI	GF TEI	GF	GF	GF
Unfavorable					
Difficult to teach by television: Physical arrangement was acceptable, but there were problems with lapel microphone, cord, lights; monitor receiver was of little use; pick-up microphone for students in TV originating room was unsatisfactory; or a few trial demonstrations put on without pre-planning were unsatisfactory.	TEI			TEI	
Inadequate: for grading (objective test scores not enough); can't adapt technique to individual differences; not possible for TV to replace classroom lecture; or good teacher in small class is better than TV.	GF TEI		GF	GF	
Limits teaching techniques: Doesn't motivate students; reduces flexibility of method; emphasis on acting (not teaching); no better than textbook; or tape would be as good.	TEI		GF		GF

Curriculum Evaluations (Cont.)	Hou.	Mi.	Ore.	P-1	P-2
Quality					
Favorable					
Quality of education: raise standard in introductory courses; high quality of lectures could be used; improve level of instruction; expose more students to better teacher; high quality of instruction available to all institutions; broaden viewpoints of institutions; an instructor can influence more students, but even so may at same time work with exceptional individual students; raises standards of teaching; or some felt TV could make contributions to higher education.	TEI	GF	GF TEI	GF	
Unfavorable					
Damages higher education: cheapens or lowers quality of education; lowers standards of teaching; or lowers level of instruction.	GF TEI		GF		GF
Miscellaneous					
Favorable					
None					
Unfavorable					
Student inattentiveness or student relaxes too much.	GF	GF	GF		GF
Takes a different student body (one with more initiative and digging out ability).	GF				
Type of Course					
Favorable					
Courses (specific): some very highly enthusiastic for possibilities of televised instruction for; telecasting expensive experiments in Physical Sciences; or take over lower division load.			GF TEI		
Good idea for lecture courses: eliminates large classes; gives more intimate tone; freedom from monotony or time saver in teaching multiple-section courses; might be useful in extending information; or overcomes large classroom barriers.	GF		GF	GF	GF

Curriculum Evaluations (Cont.)	Hou.	Mi.	Ore.	P-1	P-2
Type of Course					
Unfavorable					
Not suited to all courses: can't cover labs or workshops; can't relate lecture to lab or discussion; lack of color serious limitation for chemistry and art; students can't examine demonstrations after class; see only pictures, not actuality; limited blackboard vision; or can't control library and other assignments.	GF TEI	TEI	GF TEI	GF TEI	GF
Professional Factors					
Favorable					
Aids exchanges of teaching techniques and ideas: cross-fertilization in developing ideas in a field (by a less cumbersome means of communication than the scholarly journal); ideal way to spread teaching techniques and ideas to other teachers; new means for providing teacher training; or should have training in television teaching.	GF		GF	GF	
Instructors freed to engage in activities related to personal-professional development, research (by time saving of TV in basic multiple-section teaching and easing of teacher load).	TEI				GF
Unfavorable					
Lack of intellectual atmosphere: no dignity; a cheap method of instruction; or "sanctity" of classroom is abridged.	TEI		GF	GF TEI	
Research: no information about or need for experimentation.	TEI		GF		

Miscellaneous Factors	Hou.	Mi.	Ore.	P-1	P-2
Favorable					
Good Media: good education-communication; good public relations and publicity; level of instruction from public information to college undergraduate work; medium for getting knowledge universally distributed; or promotes academic interest among general public.	GF TEI		GF		GF
Unlimited audience: widens course opportunities for students; reduces relative isolation at campuses; best area of adult education; brings education to those unable to attend college; infinite possibilities; or may well be the wave of the future.	GF		GF		
Will meet Communist challenge to our technology.	GF				
Unfavorable					
Acceptable as experiment, but does not warrant operational use; mechanical big brother; or is a failure because it is a machine.	GF		GF	TEI	
Diverts attention from important problems in education; danger that TV may become permanent fixture; or invention of the devil, except in rare cases.	GF		GF		
Potential propaganda danger.			GF		

The "Instructor-Administrative Factors" category in the preceding table gives singular evidence of the "threat to job security" felt by many professors in what could be called a reasonably expansive sampling of attitudes. In relation to this factor, McKeachie states: "The impending shortage of college teachers has sparked several hotly contested skirmishes about the virtues of various techniques of teaching with devices substituting for a portion of the usual face-to-face interaction between instructors and students. Since some college faculty members are anxious about technological unemployment and resist innovations, research has often been used as a technique of infiltration rather than as a method of developing and testing theory". (1962, pp. 342) Strangely enough, the reader may perceive parts of the present investigation as being simultaneously directed toward both testing theory (in this instance, more social psychological than educational), and "infiltrating". Actually, the present investigators did not have the latter goal in mind. Apparent "infiltration" was an inevitable result of the methodology necessary to test hypotheses in the theoretical framework that was used.

These "threatening-insecurity" attitudes not only jeopardize the faculty's progress toward the adoption of ITV, but constitute what seems to be the beginning of a dangerous climate for future educators. Again we quote McKeachie: "... one of the most interesting outcomes of the studies of student attitudes toward television instruction is that they tend to reflect those of the proctors in the viewing rooms." (1962, pp. 351)

As a matter of fact, it has often been reported that instructors assigned for discussion sections consciously or unconsciously convey their own hostility toward ITV as a teaching medium. This may be one reason that many students develop hostile attitudes toward television instructional methods. Still another view of such negative student attitudes was reflected in a recent study (Evans, Wieland, and Moore, 1961) which concluded:

> "Negative attitudes toward television instruction may be less the result of experience in taking telecourses than of such factors as poor course performance. In other words, television as a medium of instruction may become an available whipping post because of its novelty or latent hostile attitudes arising from other factors in the college course situation."

In comparing the range of separate studies in Table 1, the investigators in the present report found that two prominent varieties of unfavorable ITV attitudes seemed to dominate the hostile groups. As indicated earlier, the attitudes appeared to almost constitute "prototypes" inhabiting a university population.

For example, one hostile response category was designated as an objection reflecting the impersonal nature of instructional television, with the following typical responses: "lacks rapport", "no feedback, and "no personal relationship". Another response category was designated as being a personal,threatening nature concerning the medium, and a typical response was: "Automated techniques will lead to wholesale unemployment".

Although there seemed to be a prevelant number of resistant ITV attitudes, educators who favored television as a supplement to their teaching seemed to do so for sound and progressive reasons. One favorable response category was designated as quantitative with the following typical responses: "Can reach larger audience" and "Help solve teacher shortage". A second category on the favorable side seemed to indicate a broader visionary attitude, with the following responses: "New teaching techniques will evolve", "Stimulate student motivation", and "Broaden world communication".

Recent research by Rokeach, Smith, and Evans (1960) suggests the possibility that dogmatic beliefs such as the ones reflected in the present study concerning ITV can very well be as important and as powerful in the individual's frame of reference as other kinds of attitudes such as racial or religious prejudice. What then can be done to change hostile and resistant attitudes toward the uses of ITV? What can be done to motivate participation in ITV? And above all, what can be done to stimulate experimentation with all of the new automated techniques, without seeming to augur the decline and extinction of the Classroom Lecturer as a species?

In recent years, a number of explorations into the values, attitudes, and beliefs of the urban university faculty have appeared in the literature. For example, Williams (1958) presented a subjective appraisal of the college faculty of one institution; Lazarsfeld & Thielens (1958) examined the effects of "McCarthyism" on academic freedom among a cross section of social science faculty members selected from a sample of American colleges; The New Professors (1960) examined university faculties by virtue of a series of essays by a group of individual professors; The American College (1962) investigated in detail the unique kind of social institution which the American college represents and its relationship to the larger society; The Academic Marketplace (1958) examined the professor in the framework of the sociological and economic pattern in which he must function. Apparently there has not been, however, an objective and intensive investigation of a university faculty as a whole and a relative lack of study in depth concerning hostility and resistance to ITV. A statement by Kumata explores what seems to be a kind of research hiatus: "There is a tendency for research to be an afterthought to instructional television efforts. Except in very few studies, a true partnership between performance and evaluation does not exist." (1960, pp. 235).

The present study was fashioned, therefore, to accomplish 3 things:

1. To look objectively at the attitude and value systems of an urban, university faculty, with a specific, analytic focus on ITV attitudes.
2. Evaluate techniques of overcoming ITV resistance in a departmental group, as a means of testing hypotheses implicit in certain social psychological theories of attitude change.
3. By the use of a battery of tests, interviews, and analyses, endeavor to examine relationships between general faculty attitudes and extreme attitudes toward ITV.

In the reflection of these three basic conceptions, answers would be sought to the following questions:

1. What is the nature and extent of attitudes held by a university faculty toward the prospect of teaching by television?

2. In what way are these ITV attitudes inter-related with other attitudes and values inherent in the university social and intellectual climate?

3. In what ways are professors who are strongly favorable to teaching by ITV different from those who are strongly hostile to ITV?

4. As a theoretical exploration of the dynamics of attitude change, to what degree can a "forced compliance" situation, as defined by Festinger (1957), consisting of an ego-involving participation in instructional television modify faculty attitudes toward ITV?

5. What promise does the video-tape recorder, as used in the faculty participation situation described above, hold as an improvement-of-teaching device?

In short, the present report deals with a more expansive exploration of the social psychological dimensions of a university faculty, reflected in the publications referred to earlier. The present investigation was directed toward exploring attitudes and values of professors and conditions which might precipitate their modification. Faculty resistance to the use of educational television was selected as a focal point.

One aspect of the present investigation became a field demonstration of the dynamics of attitude change as described by investigators such as Festinger and Carlsmith (1959); Hovland and Janis (1959); Osgood and Tannenbaum (1955); Sherif and Cantril (1947), using attitudes toward teaching by television as a target.

Before we go into the physical description of the theories, methods, and techniques used, a statement from the editors' introduction to THE YEARBOOK OF EDUCATION (1960, pp. 8) would seem to sound the exordium for the present investigation:

> "Today, to continue conservative recalcitrance - a form of cultural inertia - about the use of the new media, one might say quite simply: new media are here to stay. They cannot be dismissed with scorn or peevishness"

THEORY, METHOD, AND PROCEDURE

THEORY:

The present study, its direction and purpose dictated by an interest in the attitudes and values of professors in general and their instructional techniques in particular, was designed in operational terms to thrust deeply into the basic question: If university departments who were unwilling to employ telecourses were given unrestricted opportunity to experiment with the medium, ostensibly as a device for evaluating the video-tape recorder as a means of qualitatively improving instruction, would their own attitudes toward instructional television be effected in the process?

The present investigation was thus fashioned around the apparently threatening cultural innovation of educational television. In the process, a rich peripheral assortment of data concerning faculty attitudes and values in general was collected.

It was hypothesized that university instructors, engaged in the improvement of personal teaching skills by the use of the video-tape recorder and other television production facilities, would become ideal subjects for the study of "forced compliance" (Festinger, 1957) and "ego-involvement" (Sherif and Cantril, 1947) as attitude modification procedures. It was hypothesized by the investigators that a situation of "forced compliance" would be almost inevitable in the experimental, or video-tape phase.

Theories of equilibrium, or homeostasis, as applied to social attitudes have been widely discussed in contemporary social psychological literature. Prominent among such theories are those of Festinger (1957), Newcomb (1953), Osgood and Tannenbaum (1955), Hovland and Janis (1959).

In the present investigation, it was elected to use what is perhaps the most general of these theories - those of Festinger (1957) as outlined in his THEORY OF COGNITIVE DISSONANCE

As indicated earlier, use of a "forced compliance" situation, outlined by Festinger and Carlsmith (1959) was particularly applicable to the present investigation.

The aspect of dissonance theory, operational in the participation phase of the present investigation, could be briefly summarized as follows:

> "The presence of dissonance gives rise to pressures to reduce or eliminate the dissonance. The strength of the pressures to reduce the dissonance is a function of the magnitude of the dissonance" (Festinger, 1957).

As Festinger and Carlsmith point out in a more recent study: "...under some conditions, private opinion changes so as to bring it into closer correspondence with the overt behavior the person was forced to perform. Specifically they showed that if a person is forced to improvise a speech supporting a point of view with which he disagrees, his private opinion moves toward the position advocated in the speech. The observed opinion change is greater than for persons who only hear the speech or for persons who read a prepared speech with emphasis soley on elocution and manner of delivery. The authors of these two studies explain their results mainly in terms of mental rehearsal and thinking up new arguments. In this way, they propose, the person who is forced to improvise a speech convinces himself" (Festinger and Carlsmith, 1959, pp. 203).

Instead of using this verbal technique, which is in some degree abstract involvement, the present investigation made an actual effort to involve participants in a tangible, real-life situation, that is, behavioral involvement. The individuals in the operational phase of the investigation were involved corporeally and socially in a positive, forced compliance situation, and not simply isolated in an "experimental climate". Even this, in effect, became a further testing of the following derivation from Festinger's theories of cognitive dissonance:

> "If a person is induced to do or say something that is contrary to his provate opinion, there will be a tendency for him to change his opinion so as to bring it into correspondence with what he had done or said" (Festinger and Carlsmith, 1959)

The present investigation then was not merely a laboratory experiment but became in a sense a real-life examination of the essence of equilibrium theories, or, as it is referred to in some of the literature, balance theories, while using Festinger in particular as the broadly stated model of our investigative concept.

Recent work points in even more detail to the implications of the problem. The authors are here referring to Festinger and Aronson's description (1960) of the arousal and reduction of dissonance in a social context. For example, one section of this report is concerned with dissonance as a consequence of decisions. One of the operations of the present study was actual decision making by the members of two university departments to become involved in the ITV experiment in the first place; the kind of situation described by Festinger and Aronson (1960) was apparently present.

In the instances apparently operational in the present investigation is a condition referred to in the classic report by Festinger, Riecken, & Schachter (1956):

> "By receiving social support from one another... that is, by finding an explanation for the disconfirmation and convincing one another that it is a valid one..."

This, of course, is correlated to the social support and non-support brought to bear on the participants of the present investigation during the actual video-tape productions. In other words, the favorable and hostile groups both received "pressures" from each of the extremes. The results section will attempt to isolate these various pressures and calculate their weight and importance in attitude change.

METHOD AND PROCEDURE

From the data which were obtained from virtually the entire full-time university faculty (n = 319), two antipodal groups were established:

Pro-ITV	(Individuals clearly favorable to instructional television)
Anti-ITV	(Individuals hostile to instructional television)

Prior to the inauguration of the study, the principal investigator sounded out opinions of two complete departments in the College of Arts and Sciences and found that in the past they had rejected official overtures to use ITV in their required, large-enrollment introductory courses. Because similar departments in other urban universition had successfully and agreeably geared ITV to these courses, the two recalcitrant departments ("A" and "B") were selected to participate in the operational phases of the experiment and were collectively called PARTC-ITV. This isolated three groups:

Pro-ITVs	(55 faculty members most favorable to instructional television)
Anti-ITVs	(65 faculty members most hostile to instructional television)
PARTC-ITVs	(20 faculty members selected to participate in the operational phase)

As mentioned earlier, the video-tape machine, a relatively new electronic ITV device, with a great potential for "teaching-improvement", appeared to be the logical and ideal instrument to use in the study. Because of its immediate "playback" and erasure characteristics, it probably affords the maximum instructional self-improvement possibilities inherent in any medium in the history of education.

After the selection of the 20 active participants, a battery of psychological evaluation techniques were developed by the investigators.

These questionnaires, interviews, personality tests, and attitude measures will be discussed at length in the next section.

During one academic semester the instruments were administered to the university faculty in what could be called four chronological phases with the last, PHASE V, encompassing analyses, tabulation, and evaluation of results. The data was content-analyzed by a team of three research assistants. Rater agreement evaluations were systemmatically applied as each response category was set up. Information from all sources was then punched on IBM cards. Using the Chi Square method of estimating the significance of intergroup differences and a quartimax factor analysis, responses to the questionnaire, interviews, and personal reports were compared to ascertain any significant differences between the Pro-ITVs and the Anti-ITVs and the presence of any significant interrelationships among the responses.

The present report particularly stressed the data related to the instructional television dimension. A supplement to the present report is being prepared by the senior author in collaboration with Samuel Pinneau. It will contain additional results of the factor analysis and will deal in more detail with a general examination of the attitudes and values of the university faculty.

INSTRUMENTS AND TECHNIQUES

INITIAL QUESTIONNAIRE

For the present investigation, the instruments consisted first of the Initial Questionnaire (see sample in the APPENDIX), which included a specialized utilization of the Osgood Semantic Differential[1], a widely used attitude measurement technique.

The Osgood Semantic Differential (Osgood, Suci, and Tannenbaum, 1957) consists of the use of adjective pairs which on the basis of a systematic factor analysis have been demonstrated to be the most fundamentally meaningful concepts of the individuals. Meaning may be elicited on a seven-point scale with respect to any concept pertinent to a particular investigation. In the case of the present investigation, a series of concepts were developed which endeavored to, primarily, investigate attitudes specifically related to instructional television and, secondarily, survey other items and concepts implicit or critical in the total university situation. The thirty concepts follow:

1. Frontier Fiesta (student festival held annually)
2. Night Students
3. Athletic Scholarships
4. Additional Tuition Increase
5. Higher Entrance Requirements for University
6. More Fringe Benefits, with Smaller Salary Increases
7. Larger Salary Increases, with Fewer Additional Fringe Benefits
8. University of ☆[2] Becoming a State University
9. Admitting Qualified Negroes to University of ☆
10. Emphasis on Research at University of ☆
11. Training in Teaching Methods for Professors
12. Training in Teaching Methods for Prospective Professors
13. Lecture Method Supplemented by Small Discussion Sections for Large Classes
14. Straight Lecture Method for Large Classes
15. Television Instruction in Introductory Courses
16. Straight Television Instruction for Large Classes
17. Honors Courses Consisting Only of Textbooks and Final Examinations
18. Correspondence Courses
19. Television Instruction Supplemented by Small Discussion Sections for Large Classes
20. Television Instruction in Advanced Courses

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[1] We wish to thank Dr. Charles Osgood for the valuable suggestions he made concerning the use of the Semantic Differential prior to the beginning of the project.

[2] Star (☆) symbol explained on next page---

21. Answering Students' Questions in Large Classes
22. Teaching Machines
23. Myself as a Professor
24. Myself Conducting a Lecture Course
25. Myself Conducting a Television Course
26. Myself Conducting a Large Class
27. Myself Conducting a Small Class
28. Myself Conducting an Introductory Course
29. Myself Conducting an Advanced Course
30. Myself Doing Publishable Research

On the basis of relevance and strength of factor loadings as reported by Jenkins and Russell (1958), a priori selections were made of a group of evaluative, potency, and activity scales, listed as follows:

EVALUATIVE SCALE

Good	Bad
Dishonest	Honest
Unfair	Fair
Unpleasant	Pleasant
Worthless	Valuable

POTENCY SCALE

Rough	Smooth
Weak	Strong
Soft	Hard

ACTIVITY SCALE

Passive	Active
Slow	Fast

The above scales were selected to elicit responses to a wide range of factors related both to ITV and to factors of local importance in the university situation, which became indirectly an indication of the critical values and attitudes of the professors.

In addition to the Osgood Scales, a group of items were selected which sampled the range of teaching and evaluation techniques of the individual professor. On the basis of extensive surveys, solicited from both educational psychologists and literature in the field of educational psychology, a representative group of teaching methods were selected for use in the Initial Questionnaire. These included:

---- In order to respect the anonymity of the university involved in the present investigation, any specific reference to it will be deleted. The deletion will be noted with the following mark ☆.

Class demonstrations
Classroom lectures
Field trips
Guest instructors
Motion pictures
Outside work or readings in addition to textbook
Private tutorial sessions
Slides
Socratic method
Supplementary small discussion sections
Supplementary viewing (occasionally) of television
Teaching machines
Television lectures
Use of blackboard

In addition to gaining some indication of the number of different kinds of teaching techniques the professors use, responses to this part of the questionnaire would also yield the variability and characteristic nature of the techniques used (e.g., traditional versus audio-visual aids; didactic versus discussion).

Another factor considered important which would be indicative of the value patterns and range of instructional techniques the professors dealt with was the techniques used in evaluating students. By the means described above, a group of diverse evaluation techniques were assembled. These included:

Attendance
Attitude
Class recitation
English usage
Essay tests
Neatness
Objective tests
Oral examinations
Promptness in completing assignments
Spelling
Tardiness
Themes or term papers
Extra work to raise grades
Showing improvement

In addition, a range of biographic, academic, and general demographic information was sought from the faculty:

What is your age?
What is your sex?
How many dependents do you have?
What is your highest, earned, academic degree?

At how many institutions have you taught?
How many years of full-time teaching experience do you have?
What is your professional field?
Have you published in professional journals in your own field?
How many papers have you published?
Have you ever read a paper at a professional meeting?
How many papers have you read?
What is your teaching load in semester hours?
If you were teaching an introductory course in your field, approximately what size class would you prefer?
Approximately how many full-time faculty members are there in your department?
What is your academic rank?

Each of the items in the Initial Questionnaire was selected in terms of an effort, on the basis of staff judgement, to arrive at as many facets as possible of the total university teaching situation, which would reflect: professors' values and attitudes and their range of teaching techniques.

The Osgood Scales, the teaching and evaluation techniques, and the demographic data were combined into questionnaire form and pretested on a sample of young Psychology instructors who were asked to critically evaluate the instrument. On the basis of these, a second form of the instrument was developed and likewise evaluated. The final form of the instrument was then developed.

Permission was then gained from the administration to administer the instrument to the entire university faculty. Eighty percent of the full-time faculty (n = 400) responded to the questionnaire (n = 319) to an extent of full or nearly full completion. This high degree of success in drawing an almost total response from the faculty was attributed to two things: (1) the instrument had been approved for distribution by the Dean of Faculties. This fact, as is routinely the case, was indicated on the face of the instrument. (2) persistent follow-ups by the research staff encouraged faculty members who were remiss in returning the completed questionnaire.

These techniques resulted in not merely obtaining a sample of the faculty, but in effect almost the entire universe. This, of course, adds a unique note to this type of investigation.

THE PRETEST INTERVIEW FORM

On the basis of the Osgood items, referred to later in the present report, criteria for the selection of Pro-ITV and Anti-ITV groups were established and the groups were selected. The interview instruments (both pre- and posttest) were then completed, involving a collection of open-end, fixed-alternative, and projective questions.

The development of the interview instruments followed some of the typical guidelines as described by Maccoby and Maccoby (1954, pp. 449).

The Pretest Interview Form (see APPENDIX) included first of all an item that elicited faculty responses to the Initial Questionnaire, which would seem to approximate an attitude which might be called "reaction to intrusiveness" or anti-intraceptiveness as described by Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950). Next the interview began a probe into the philosophy of education. For example, the first two questions asked:

As you know, there has been a lot of controversy recently concerning content versus method in teaching. For example, universities virtually never require prospective professors to obtain training in teaching methods. How do you feel about this practice?

How do you feel about the plan to control the effects of the large population increase on college enrollments which involves drastically upgrading the entrance requirements for students?

Next, an item on teaching machines was included because teaching machines also appeared to be probably not unrelated to ITV as a focal point for faculty resistance. A quasi-role playing device (Evans, 1952) was modified for utilization in the present investigation. The quasi-role playing device consists of "cognitive role-playing". First an individual is asked to imagine himself opposed to some social object and then is asked to imagine himself in favor of the same object. It was decided that for the present investigation the quasi-role playing device could be used for both items, "ITV" and "teaching machines". The questions that follow illustrate the quasi-role playing technique:

As you can imagine, some professors are opposed to a change to instructional television; others are in favor of it. Imagine yourself for a moment as an individual who is strongly opposed to the use of teaching by television. Now state as many different reasons as you can for your opposition to its use.

The preceding question was followed by:

Now imagine yourself again for a moment as an individual who is strongly in favor of teaching by television. State as many different reasons as you can for your support of television instruction.

And this was followed by the completion or control question:

How do you personally feel about television instruction?

With responses to the Evans' quasi-role playing device to both ITV and teaching machines, a look in depth could be made at a wide range of expression of faculty attitudes, theoretically more revealing than more direct questioning by itself.

At this point in the Pretest Interview development, the research staff moved to the use of other projective questions in order to get some data on the authoritarian-equalitarian dimension in the university faculty. It seemed possible that questions, as described by Adorno, et al (1950), would elicit not only some additional personality data but also, because of its relationship to the rigidity dimension, would be interesting to examine in terms of a cultural innovation such as ITV.

It was elected to inject certain items with applicability to a population of university professors which would not, however, in the opinion of the clinical psychology interviewers, threaten too conspicuously the faculty interviewees. The projective items which were selected are as follows:

> What great people, living or dead, do you admire the most?
>
> We get a feeling of awe when something seems to us wonderful, or impressive, or really important. What things would give you the greatest feeling of awe?

In addition to the data on the authoritarian-equalitarian dimension it seemed to the research staff that the interesting controversy concerning Charles Van Doren and the so-called television quiz "scandals", might elicit responses reflective of faculty value systems. Responses to pretests of this item confirmed this hypothesis. The following item was thus added as an additional projective device:

> If you were the president of a university and Charles Van Doren applied for a position as a faculty member, would you hire him?

After the development of the Pretest Interview instrument, it was pretested on a group of young instructors in the Psychology department who again were asked to give an evaluation. The instrument was then revised in terms of these responses and the final form of the pretest questionnaire was constructed.

THE POSTTEST INTERVIEW FORM

As a means of examining attitude change as a result of the experimental phase of the present investigation and to elicit further data on values and attitudes, a Posttest Interview Form (see APPENDIX) was also developed. As indicated earlier, the same item selection and development procedure was utilized here as with the pretest form. The first item selected was:

> What do you believe good university level teaching really consists of?

The research staff then turned their attention to the equipment to be used in the participation phase of the experiment: the video-tape recorder. A more specific picture of reactions to the machine itself was needed. Although the question selected was directed chiefly to the two participating departments, it was felt that it would be interesting to get some reactions from other faculty members, namely the other experimental and control groups. These were the HH-ITVs (those who Had Heard about the experiment) and the HNH-ITVs (those who Had Not Heard about the experiment). The following two questions were thus included:

> The video-tape recorder, as you know, is a device that records on tape both a picture and sound which can be played back immediately. What, in your opinion, might be the disadvantages of such a device if it were made available to university departments as a possible means of qualitatively improving course instruction?

> In your opinion, what might be the advantages of the video-tape recorder as a means of improving instruction?

The research staff also devised some specific questions for those members of the university faculty who were not involved in the experimental phase. The two following questions were devised as the means of selecting the experimental and control groups:

> As a part of an improvement of teaching project, all of the members of the ✡ departments have completed television tapes of their lectures and privately viewed the results. They also have been developing video-tape presentations that could theoretically be used for their introductory courses. Have you heard about this project?

> What have you heard about this activity?

The latter question was designed to also give the study a conception of the different patterns of evaluations which would undoubtedly be communicated among faculty members as a result of the experiment.

Then, of course, repeat questions from the Pretest Interview were included, using the specific ITV questions, in order to evaluate in depth the possibility of any attitude change.

This was followed finally by an item that went even more completely into the matter of a "means of improvement of teaching". The following question was devised in order to see to what degree the participants in the experiment would now reflect their own experience with the video-tape recorder or instructional television:

> I believe you have already indicated to me what YOU BELIEVE GOOD UNIVERSITY TEACHING CONSISTS OF. Now, imagine yourself in this situation. Supposing you were the Dean of a college and you wished to improve the teaching of your faculty, what approach would you take in this problem?

As in the case of the Pretest Interview Form, the research staff administered the instrument to a group of six young Psychology instructors and asked them for their evaluation. In the light of these critical evaluations, the instrument was revised, constructed in a final form, and distributed.

Both the Pretest and Posttest Interview instruments were administered to members of the faculty (Pro- and Anti-ITV) selected in terms of the procedure referred to in the earlier METHOD AND TECHNIQUE section of the present report. The interviewers were three highly experienced clinical psychologists on the Psychology department staff. This caliber of interviewer was particularly necessary in the sensitive business of interviewing colleagues.

CHRONOLOGY

Everyone involved in research activity undoubtedly wishes their analyses, tables, charts, graphs, and results to be as constant and incandescent as the idea that motivated them. Unfortunately, some intermediate results tend to confuse the reader simply because of their juxtoposition to the whole.

In an effort to anticipate this, we have listed next a brief chronology of the instruments and techniques used in the present study, with the hope that it will clarify the scope of each experimental phase.

PHASE I. (n = 319) (Spring 1959)

The Initial Questionnaire was given to 319 full-time members of a large urban university faculty, or 80% of the total. The questionnaire contained three sections:

> The Osgood Semantic Differential with 30 general topics, 5 of which related to ITV. Ten differential scales appeared relating to each of the topics.
>
> A teaching technique and student evaluation section, containing 28 general topics, 2 of which related to ITV.
>
> A biographic, academic, and general demographic section.

PHASE II. (n = 120) (Summer 1959)

Two extreme groups were isolated from the Initial Questionnaire to participate in Phase II - 55 Pro-ITVs and 65 Anti-ITVs. These two groups, which included the 20 faculty members destined to participate in the operational aspect of the experiment, were given a personal PRETEST INTERVIEW by one of a team of three clinical psychology professors. Used in this interview instrument were an array of fixed alternative, projective, and general open-end questions, some clearly ITV oriented, others seeking background in depth on the respondents philosophy of education and other individual personality characteristics.

PHASE III. (n = 20) (Fall 1959 - Spring 1960)

As indicated earlier, two complete departments participated in the operational phase. The progression of this section was broken into six parts.

1. Successful elicitation of preliminary agreement to participate by the departments.

2. Outlining of objective of experiment to participants and suggesting the availability of information and source material regarding university instruction in general as well as the new instructional media in particular.

3. Each PARTC-ITV preparing, producing, and participating in at least one 45 minute video-taped effort, to be examined and reacted to by themselves.

4. Each department collaborating in the production of several video tapes, which represented a cooperative departmental effort.

5. Each PARTC-ITV writing a final report concerning his experience and his opinion of the video-tape recorder as an improvement-of-teaching device.

6. Each department, as a group, writing a final report concerning the experiment.

7. The Television Production Coordinator who assisted the PARTC-ITVs during their taping sessions writing a final, personal report on the quality of each tape and the behavior of PARTC-ITVs "on camera".

PHASE IV. (n = 120) (Summer 1960)

The final operational Phase of the study involved the respondents from Phase II. These two groups which included the 20 faculty members who had completed the physical, or video-taping, phase were given a personal Posttest Interview by the same team of clinical psychologists - using many of the same items included in the Pretest Interview, with certain relevant additions.

PHASE V. (Data Analyses) (Fall 1960 - Spring 1961)

The fixed alternative data were tabulated; the general open-end and projective data were content analyzed and coded. Data were punched on IBM cards. Statistical tests applied included Chi Square analysis of Pro- and Anti-ITV group differences and a factor analysis of the Osgood Data.

ANALYSES OF DATA

Following the distribution of the Initial Questionnaire, analyses of data began with the Osgood Semantic Differential. Each of the Osgood Scale responses were punched on IBM cards, and, characteristically, each individual Osgood scale response was recorded.

Also punched were specific individual responses to the items dealing with teaching methods, evaluation techniques, along with the biographic, academic, and general demographic data. A highly detailed, specific recording was made of each response in the Initial Questionnaire.

For data from the Pretest and Posttest Interviews, analyses were made in the following manner:

OPEN-END-DATA

The results here were content analyses of the open-end and projective data, and were generally handled in terms of the typical procedures described by Berelson (1954, pp. 488).

Three members of the research staff, who were Psychology graduate students serving as the original coding group, individually examined each of the responses in the open-end interviews and set up response categories. The three raters then met together and, on the basis of independent external criteria, determined to what degree their response categories were consistent with one another. It was found that to a surprising degree the raters had arrived at very similar response categories. Therefore, after the categories were subjected to a few more trial and error modifications,certain categories seemed to emerge as being adequate.

Using these established response categories, the three raters again examined the Pretest and Posttest Interviews and the responses were coded. Occasionally there were times when certain responses could not easily be coded. In these cases it was arbitrarily decided that where there was an agreement pattern of two out of three this would be considered adequate. It was interesting to note how infrequently this kind of arbitrary decision was necessary; the response categories set up by the research staff coding group seemed to be quite adequate. The overall agreement in coding between the three raters of the Pretest Interview was 76.6% and for the Posttest Interview 78.5%.

Concerning the projective items, scoring categories recommended by Adorno, et al, (1950) were used, and coding of authoritarianism was made using the procedures described above. Rater agreement was again high (.81). After the interviews, the raters scored each respondent in terms of three, nine-point scales (tolerant-hostile, secure-evasive, sophisticated-bland) which were designed inductively by the staff. They yielded additional data concerning the individual behavior of the respondent during the interview situation. The ratings were made in terms of the over-all data appearing in the interview record. These ratings were also scaled and coded by the procedure described earlier. Rater agreement here was again high (.77). Data here was also punched on IBM cards.

Statistical techniques employed in the present study consisted of: (1) Traditional tests of Chi Square (McNemar, 1949) to span the significance of differences between the extreme Pro- and Anti-ITV groups and (2) a quartimax factor analysis technique, which will be discussed in more detail later in the report because of its unique nature.

For the time being it may be pointed out that this was a special analytic technique devised by Samuel Pinneau, the statistical coordinator for the present study and was a modification of a Quartimax analysis of Variance. This method of factor analysis is soon to be reported in a separate publication by Samuel Pinneau.

The 650 and 704 computers, respectively, were programmed for the Chi Squares and factor analyses.

RESULTS

Forward:

The present study involved obviously more than our basic enigma THE UNIVERSITY FACULTY AND EDUCATIONAL TELEVISION. Therefore, in isolating the specific ITV attitudes of a university faculty, a considerable amount of related data had to be sorted and for the time being moved aside. Without seeming to ignore the "gestalt" of the study, we will report our results in two separate sections. As a means of emphasizing the significance of the results, discussion of them will be interwoven with their statement.

A. GENERAL RESULTS
(attitudes evidently not related to ITV)

B. ITV RESULTS
(attitudes relating to ITV)

GENERAL RESULTS

PHASE I. (Report of Responses to Initial Questionnaire)

1. Professional, Academic, and Other Demographic Information
2. Osgood Semantic Differential Item
3. Five ITV Concepts from Osgood Semantic Differential
4. Teaching and Evaluation Behavior

General Information

The mean age of the faculty was 41.83 years, ranging from 24 years to 75. Of the 319 subjects responding to this section of the questionnaire. 80.25% were males. The mean number of dependents was 2.75.

Professional and Academic Information

Although only 15 respondents failed to answer the "age" question, 30 failed to answer the question concerning their personal teaching load, which was computed to have a mean of 10.55 semester hours, with 12 the response most often given.

Approximately 50% of the faculty had less than 10 years of teaching experience, while the mean number of years was 13.20. Breakdown by academic rank is as follows:

74	Professors
101	Associate Professors
85	Assistant Professors
57	Instructors

Of 306 respondents, 164 had published papers in their own fields, the mean number of papers being 6.29.

A rating was made independently by the research staff to measure the response distortion of the Initial Questionnaire. A classification system was constructed in which questionnaires showing complete response deletion of 15 pages or more were categorized as "largely incomplete". If 4-15 pages were completed deleted, the questionnaire was classed "partially incomplete". If the questionnaire indicated that the respondent performed in a non-teaching capacity, e.g., some members of the library staff, it was classified as "inappropriate". If a questionnaire recorded over 15 pages (150 variables) of Osgood items all marked neutral, the classification was "largely deliberate response distortion". If 4-15 pages were all checked in the neutral columns, the questionnaire was classified as suggesting "partial deliberate response distortion". Some questionnaires fell into both the incomplete and distorted categories. The following distribution was found for the above categories:

OVER-ALL OSGOOD RESPONSE PATTERNS

1.	Largely incomplete	16
2.	Partially incomplete	4
3.	Failed to follow instructions	1
4.	Inappropriate respondent	3
5.	Largely deliberate response distortion	39
6.	Partial deliberate response distortion	78
7.	Both inappropriate respondent and Partial deliberate response distortion	6
8.	Both inappropriate respondent and Largely deliberate response distortion	1
9.	Both inappropriate respondent and Partially incomplete	1
10.	Both inappropriate respondent and Largely incomplete	1

FIVE TELEVISION QUESTIONS ON THE OSGOOD SEMANTIC DIFFERENTIAL

Before discussing faculty preferences for teaching methods as a whole, it might give the reader perspective for us to report the Osgood item responses that relate to five ITV concepts, which were:

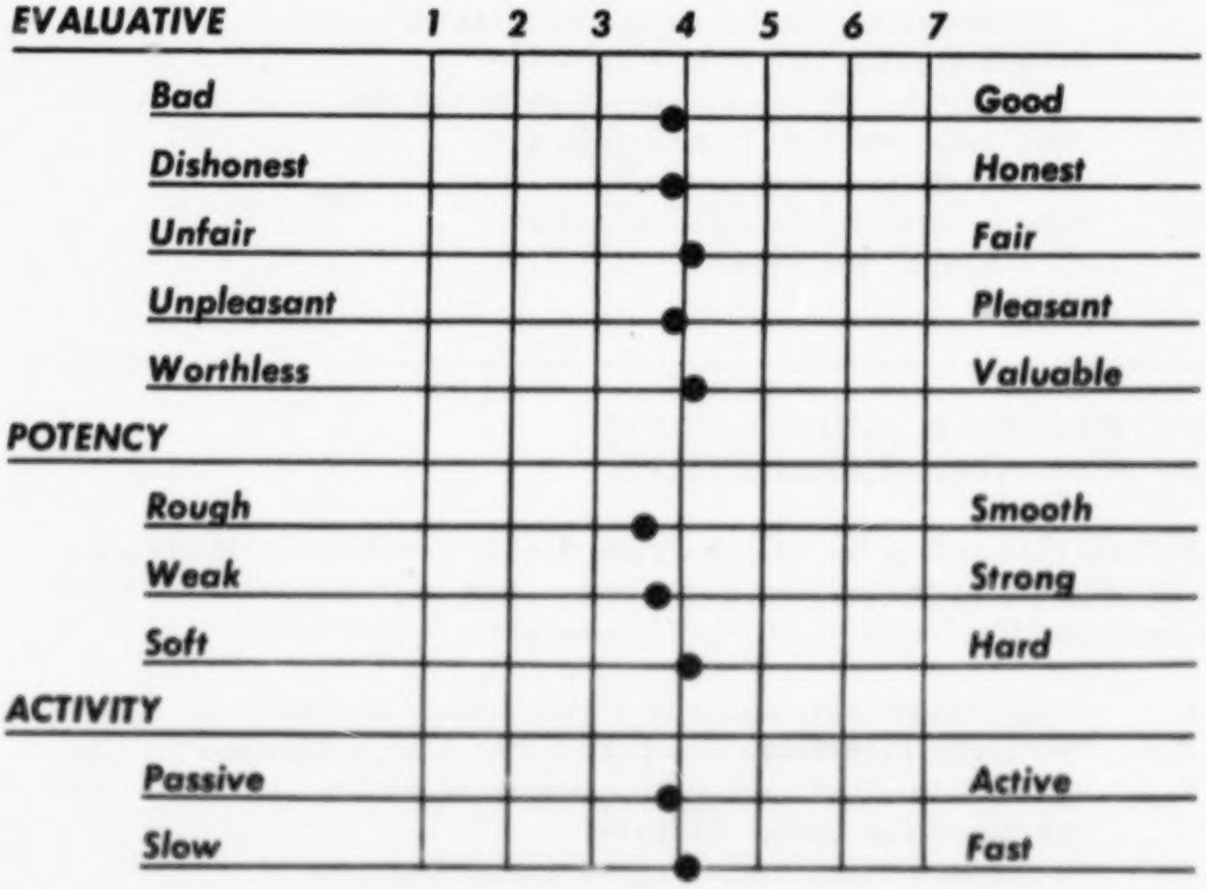
1. "Television Instruction in Introductory Courses"
2. "Straight Television Instruction for Large Classes"
3. "Television Instruction Supplemented by Small Discussion Sections for Large Classes"
4. "Television Instruction in Advanced Courses"
5. "Myself Conducting a Television Course"

First of all, as the reader can observe in Table 2, the concepts dealing with ITV were generally reacted to unfavorably on evaluative scales by the respondents. In fact, only three of the five television concepts elicited evaluative scale means of greater than 4.00, the first being "Myself teaching a television course" (4.42); the second, "Television Supplemented by Small Discussion Sections for Large Classes" (4.73); and the third, "Television Instruction in Introductory Courses" (4.02).

As can also be observed in Table 2, the two television items responded to unfavorably were ranked at the bottom of all 30 concepts. These two items were, "Television Instruction for Large Classes" (3.48) and "Television Instruction in Advanced Courses" (3.57) and were ranked 29th and 30th respectively. The following pages contain a brief representation of the results obtained from the five ITV questions appearing on the Osgood Semantic Differential. (Section 4, Appendix, contains the other 25 representations)

Graphic Representation of Mean Scale Values for the Osgood Question

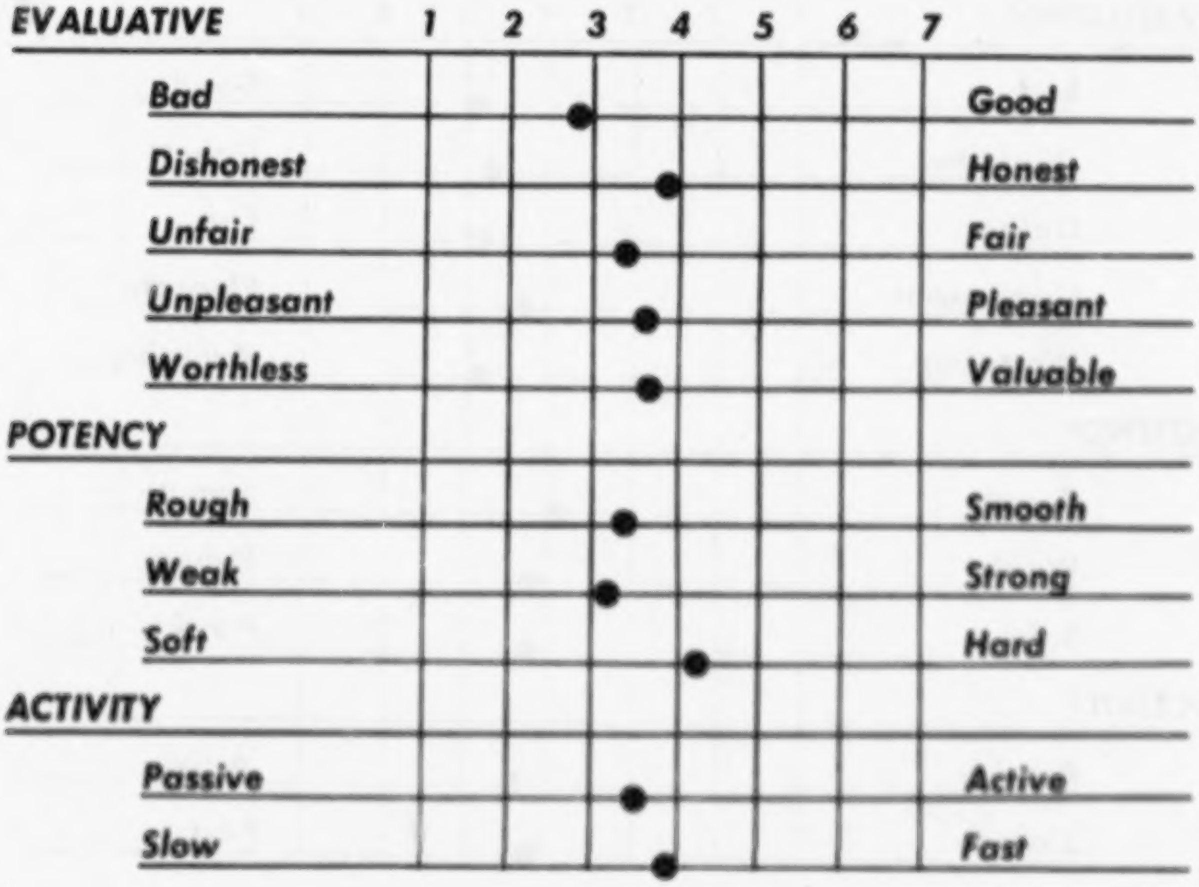
"TELEVISION INSTRUCTION IN INTRODUCTORY COURSES"



SUMMARY: The over-all Evaluative Scale mean value of 4.02 was indicative of a slightly favorable attitude exhibited toward this concept. The average number of respondents per scale was 301, with a range of from 299 to 305. Means and standard deviations for each scale may be found in Section 1 of the APPENDIX.

Graphic Representation of Mean Scale Values for the Osgood Question

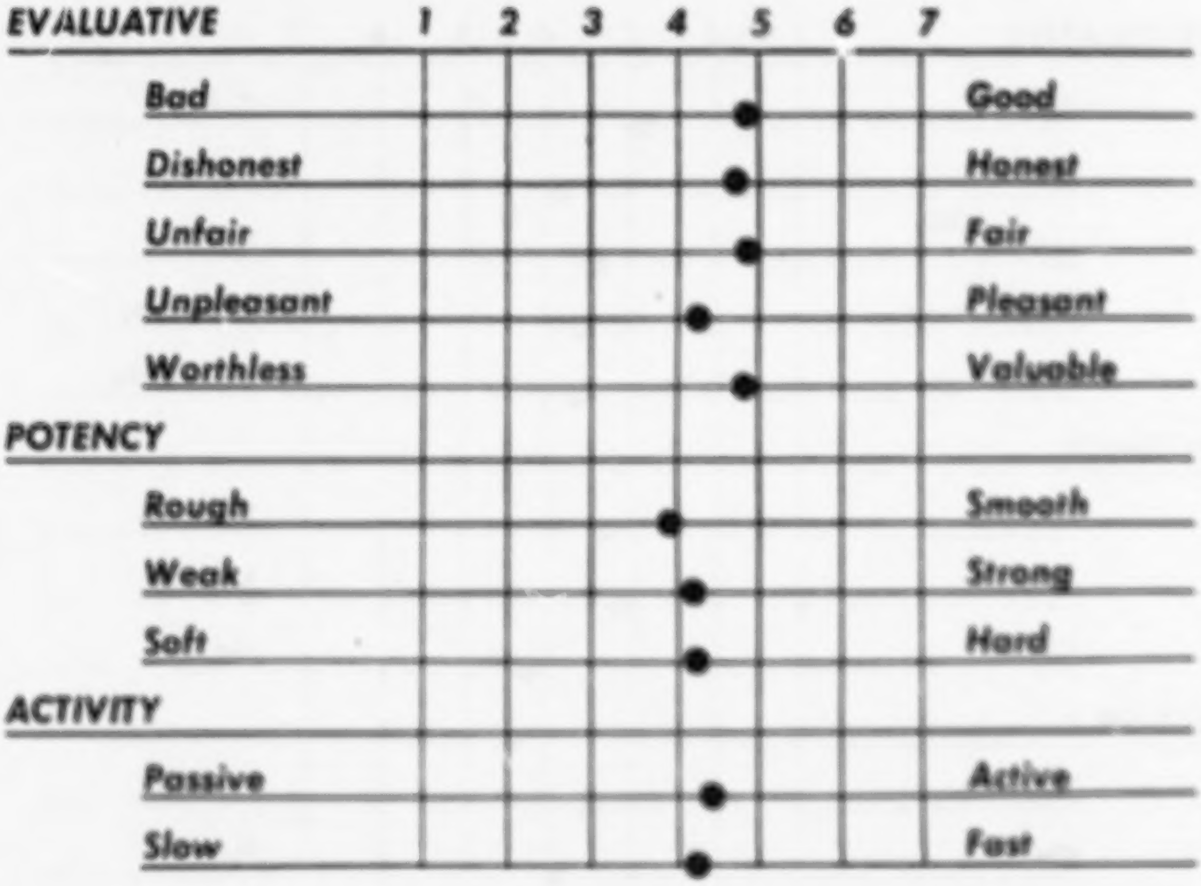
"STRAIGHT TELEVISION INSTRUCTION FOR LARGE CLASSES"



SUMMARY: The over-all Evaluative Scale mean value of 3.48 was indicative of a negative attitude exhibited toward this concept. The average number of respondents per scale was 300, with a range of from 286 to 306. Means and standard deviations for each scale may be found in Section 1 of the APPENDIX.

Graphic Representation of Mean Scale Values for the Osgood Question

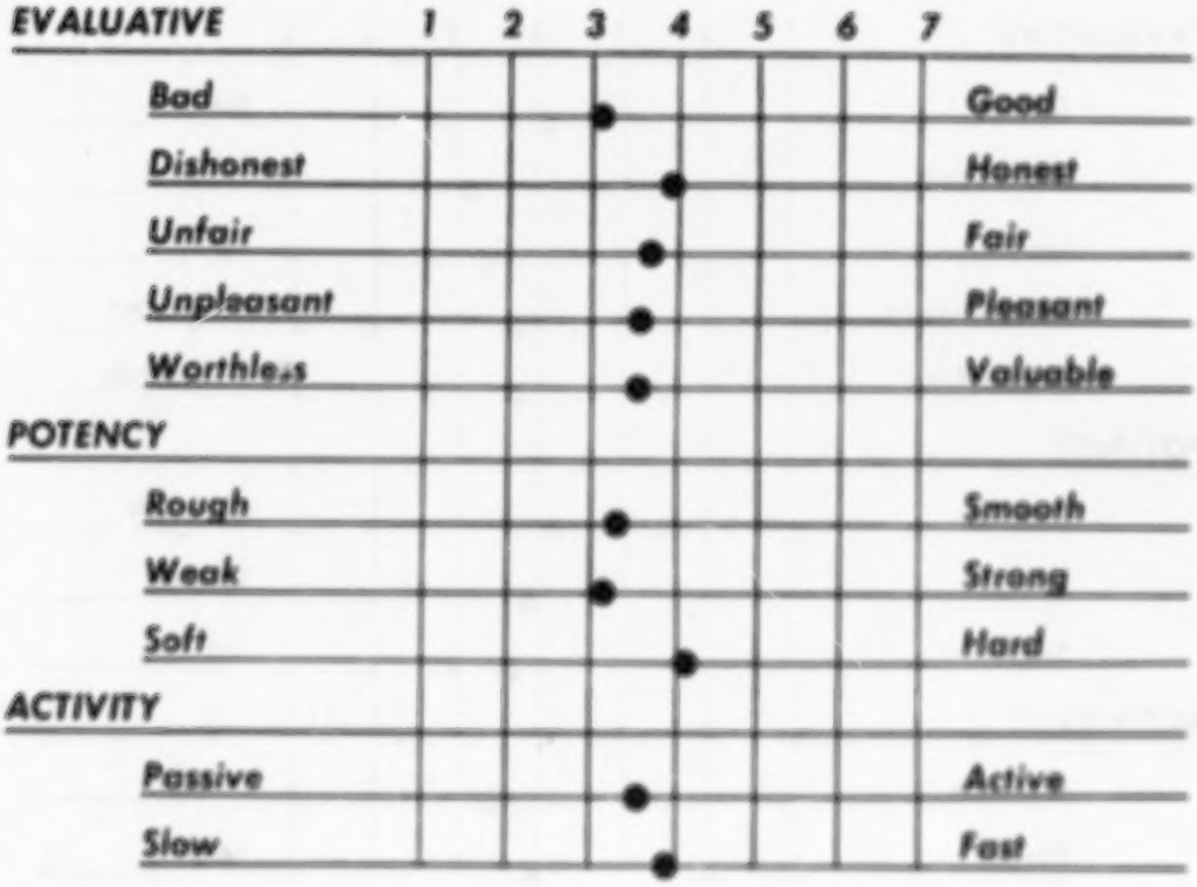
"TELEVISION INSTRUCTION SUPPLEMENTED BY SMALL DISCUSSION SECTIONS FOR LARGE CLASSES"



SUMMARY: The over-all Evaluative Scale mean value of 4.73 was indicative of a favorable attitude exhibited toward this concept. The average number of respondents per scale was 302, with a range of from 300 to 310. Means and standard deviations for each scale may be found in Section 1 of the APPENDIX.

Graphic Representation of Mean Scale Values for the Osgood Question

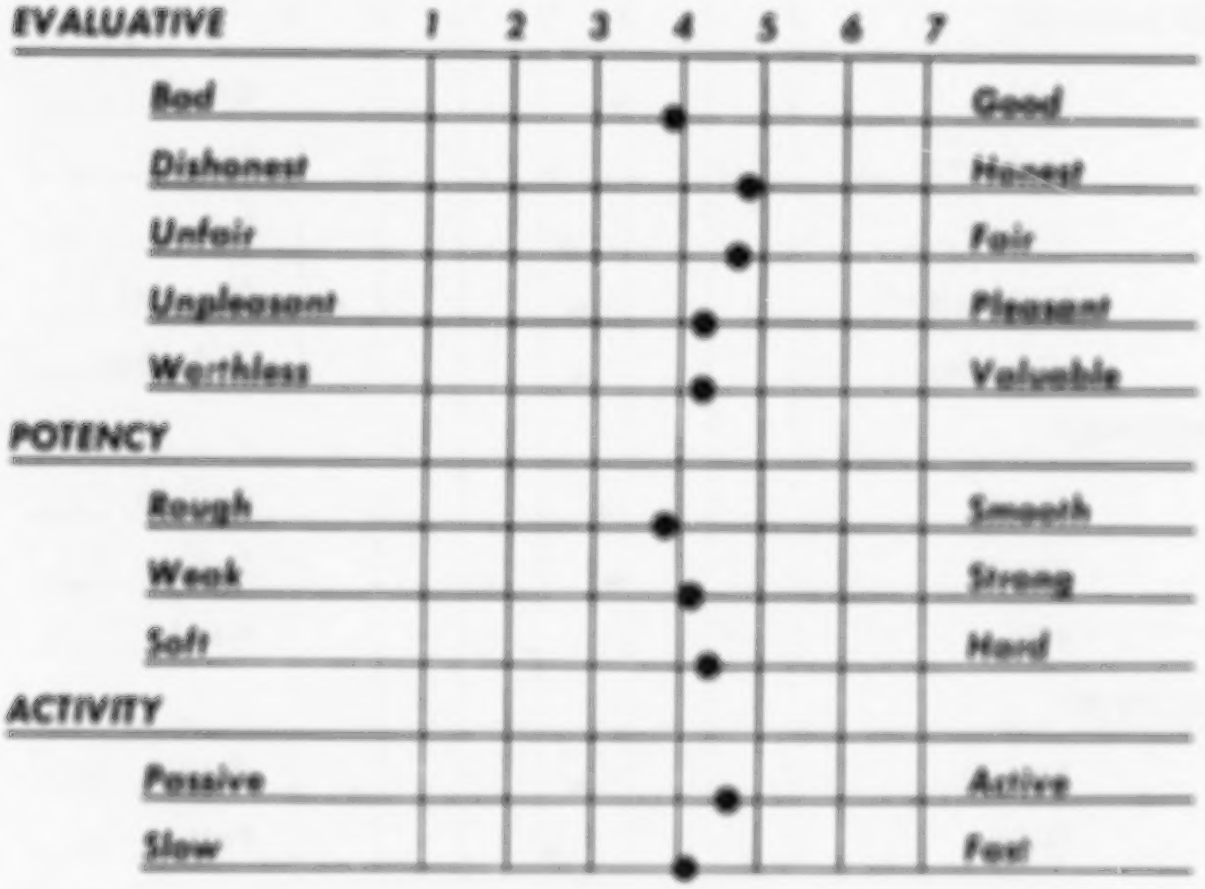
"TELEVISION INSTRUCTION IN ADVANCED COURSES"



SUMMARY: The over-all Evaluative Scale mean value of 3.57 was indicative of a negative or unfavorable attitude exhibited toward this concept. The average number of respondents per scale was 302, with a range of from 301 to 305. Means and standard deviations for each scale may be found in Section 1 of the APPENDIX.

Graphic Representation of Mean Scale Values for the Osgood Question

"MYSELF CONDUCTING A TELEVISION COURSE"



SUMMARY: The over-all Evaluative Scale mean value of 4.42 was indicative of a favorable attitude exhibited toward this concept. The average number of respondents per scale was 299, with a range of from 298 to 303. Means and standard deviations for each scale may be found in Section 1 of the APPENDIX.

Teaching and Evaluation Behavior

Following the 30 Osgood items in the initial questionnaire a list of 14 teaching methods appeared. The faculty respondents were asked to check the teaching methods they favored for use in large-enrollment introductory courses. (See sample form in APPENDIX.)

In order to compare student attitudes to the methods listed,as part of a more general study of related student attitudes described later, the list was administered to a sample of 45 students enrolled in an introductory psychology course, and the results were tabulated.

The following table compares rankings of the preferred methods of teaching by both instructors and students:

Table 2

Comparison of Professor and Student Preferred Teaching Methods (Preference in order from most to least. Ranking of 1, most used and favored; 2, next preference; etc. See APPENDIX for frequency counts.)

Teaching Method	Instructor Rating (n=319)	Student Rating (n=45)
Classroom lectures	1	2.5
Use of blackboard	2	2.5
Outside work or readings in addition to textbook	3	9.5
Class demonstrations	4	1.
Motion pictures	5	4.
Supplementary small discussion	6	5.
Guest instructors	7	6.
Slides	8	12.
Supplementary viewing (occasionally) of ITV	9	8.
Fields trips	10	7.
Private tutorial sessions	11	9.5
Socratic method	12	14.
Television lectures	13	11.
Teaching machines	14	13.

With the exception of the "outside work" item, there seemed to be a general student-professor agreement concerning teaching methods. There was, as the reader will observe, a slight student preference for "television lectures" and "teaching machines".

Another item on the Initial Questionnaire asked 14 questions concerning the professors personal techniques of evaluating students. As in the preceding table, the research staff compiled a comparison with student preferences. The following datum compares both groups with respect to preferred methods of evaluation.

Table 3

Comparison of Professor and Student Preferred Evaluation Criteria (Preference in order from most to least. Ranking of 1, most used and favored; 2, next preference; etc. See APPENDIX for frequency counts.)

Method of Evaluation	Instructor Rating (n=319)	Student Rating (n=45)
Objective tests	1	1.5
Promptness in completing assignments	2	8
Showing improvement	3	5
Essay tests	4	4
Attendance	5.5	1.5
Attitude	5.5	7
English usage	7	11.5
Themes or term papers	8	3
Spelling	9	6
Class recitation	10	9
Neatness	11	13
Tardiness	12	11.5
Extra work to raise grades	13	10
Oral examinations	14	14

The expected wide variance of opinions occurred in the "attendance", "English usage", and "promptness items", but a somewhat surprising agreement on the use of "essay tests".

Now that we have to some impressionistic degree established the personality of the university faculty, we can turn to a general examination of the provocative material translated from the Osgood continuum scales. These data included a particularly interesting faculty response to questions concerning their own abilities.

On the Osgood continuum scales the faculty projected themselves, grossly speaking, as "good, rough, honest, active, fair, strong, fast, pleasant, hard, and valuable". The following sample of the responses to the "good-bad" scale illustrates this favorable self-image of the majority of respondents.

n = 319

Myself as a *Professor*

No Response

good 49 : 129 : 74 : 39 : 9 : 0 : 1 bad 18

For the 300 Osgood variables, five of which pertained to instructional television, means and S. D.'s were determined. For each of the 30 Osgood items, an over-all mean of the 5 evaluative scales was computed. with a value of 4.00 considered neutral. Therefore, an over-all mean greater than 4.00 was considered indicative of a favorable attitude, and an over-all mean of less than 4.00 as unfavorable.

The following is a compilation of all Osgood responses to the evaluative scales (good-bad, valuable-worthless, etc.) categorized by their over-all means, progressing from more to less favorable. (The included ITV items, listed in order of their acceptability to the faculty, will be more fully examined later in the present report.)

Table 4

Over-All Means of Osgood Evaluative Scales

Ranked from Most to Least Favorable

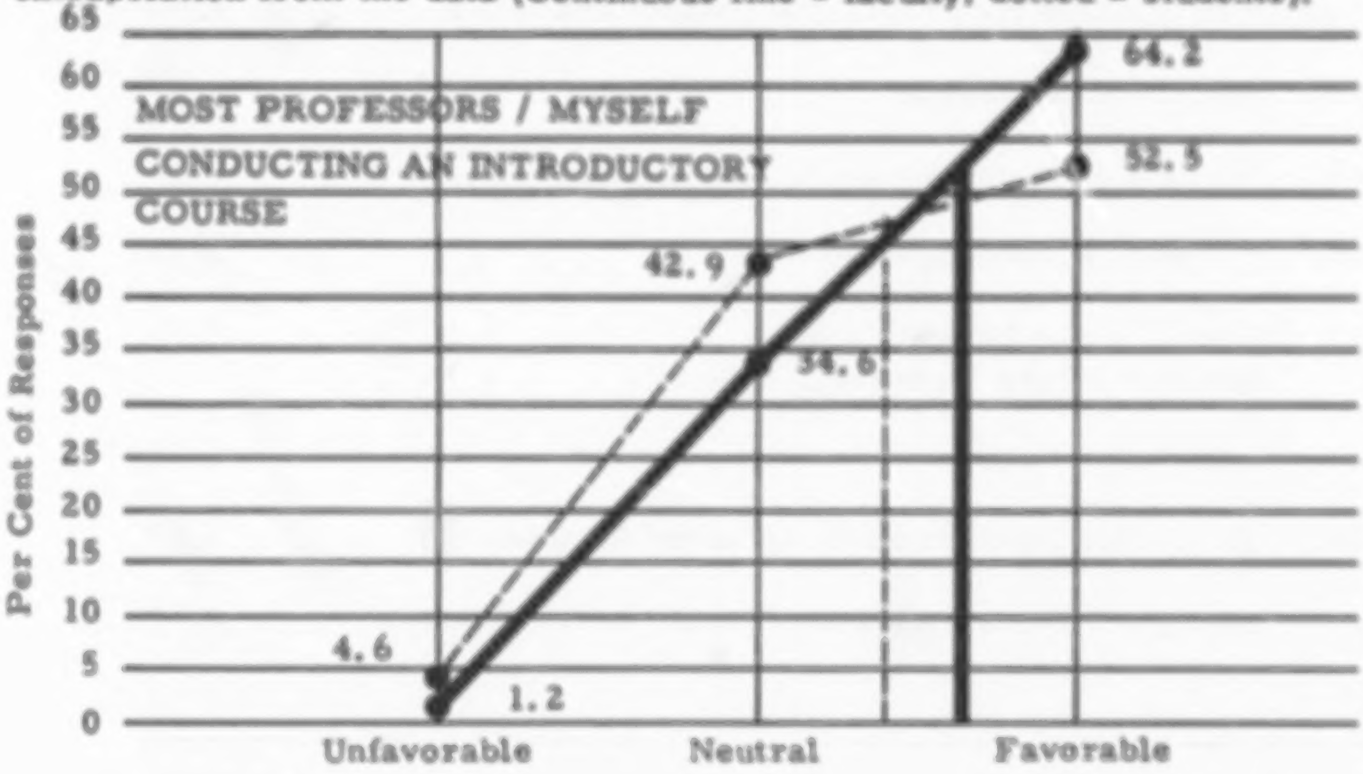
Rank	Item	Over-All Mean (Evaluative Scales)
1.	Myself Conducting a Small Class	5.99
2.	Myself as a Professor	5.80
3.	Myself Conducting an Advanced Course	5.76
4.	Myself Conducting an Introductory Course	5.67
5.	Myself Conducting a Lecture Course	5.61
6.	Night Students	5.49
7.	Higher Entrance Requirements for University	5.48
8.	University Becoming a State University	5.48
9.	Larger Salary Increases with Fewer Additional Fringe Benefits	5.46
10.	Emphasis on Research at University	5.39
11.	Lecture Method Supplemented by Small Discussion Sections for Large Classes	5.38
12.	Myself Conducting a Large Class	5.34
13.	Myself Doing Publishable Research	5.23
14.	Training in Teaching Methods for Prospective Professors	5.02
15.	Admitting Qualified Negroes to the University	4.95
16.	Answering Students' Questions in Large Classes	4.94
17.	Training in Teaching Methods for Professors	4.87

Item	Over-All Mean (Evaluative Scales)
18. Television Instruction Supplemented by Small Discussion	4.73
19. Frontier Fiesta (Student Activity)	4.56
20. Myself Conducting a Television Course	4.42
21. Honor Courses Consisting Only of Textbooks and Final Examinations	4.21
22. Teaching Machines	4.07
23. Television Instruction in Introductory Courses	4.02
THEORETICALLY NEUTRAL ON OSGOOD SCALES	4.00
24. Athletic Scholarships	3.99
25. Straight Lecture Method for Large Classes	3.96
26. Correspondence Courses	3.84
27. More Fringe Benefits with Smaller Salary Increase	3.83
28. Additional Tuition	3.73
29. Television Instruction in Advanced Courses	3.57
30. Straight Television Instruction for Large Classes	3.48

Two major implications appear immediately from the Osgood tabulations. The "myself" responses appear in the most favorable position in the response hierarchy, while the "television" items appear in the least favorable position. In the light of this favorable self-evaluation by the faculty, it was decided, as suggested earlier, to administer a similar instrument to a sampling of students - in this instance to determine whether or not students evaluated the faculty to the same favorable degree.

Seven "myself" items were modified to read, "Most professors I have had at the University". An additional 7 items were included from the original Osgood faculty questionnaire. These items were also included in the instrument administered to the student sample.

Although the sample is certainly not representative of the entire student population, some interesting comparisons can be drawn. First of all, student evaluation of the faculty is graphically consistent with faculty self-evaluation. However, a more subtle analysis of the results indicates clearly that students rate the faculty lower than the faculty rates itself. This may be seen in the following figure, which is based on an illustrative extrapolation from the data (Continuous line = faculty; dotted = students):



Although the means of the two groups are very close, the distribution of responses vary significantly.

In order to determine if professors rated themselves more favorably on the whole than students, a cursory examination of differences was made. Students evaluative scale responses were compared to those of the professors, through Chi Square tests, which were computed on collapsed 3-point scales of both groups on several of the items. (Means for all 140 7-point scales are included in the APPENDIX for the reader's inspection.)

The table which follows reflects items and means for both groups as well as Chi Squares and probability levels.

Table 5

Chi Square Comparisons of Over-All Mean Evaluative Scale Responses of Professors and Students[1]

Item	Professors	Students	Chi Square	p
Myself as a Professor (Most Professors I Have Had at University of ____☆____)	5.80	5.60	39.86	.001
Myself Conducting an Introductory Course (Most Professors at the University of __☆__ Conducting an Introductory Course)	5.67	5.51	26.18	.001
Myself Conducting a Lecture Course (Most Professors I Have Had at University of __☆__ Conducting a Lecture Course)	5.61	5.20	56.66	.001
Lecture Method Supplemented by Small Discussion Sections for Large Classes	5.38	5.64	12.30	.01
Myself Conducting a Television Course (Most Professors Conducting a Television Course)	4.42	4.92	87.82	.001
Television Instruction in Introductory Courses	4.02	3.72	54.24	.001
Straight Television Instruction for Large Classes	3.48	3.41	43.96	.001

As the reader can see, highly significant differences in distributions were found on all 7 items tested, although the relative ranking of items was approximately the same for both groups. The reader will observe this fact as he scans the following chart:

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[1] In order to respect the anonymity of the university inolved in the present investigation, any specific reference in these charts to this school will be deleted. The deletion will be noted with the following mark ____☆____

Table 6

Mean Evaluative Scale Values and Rankings of Student Responses to 14 Items as Compared to Professors' Responses

Item	Students' Means	Rank	Professors' Means (Item in "myself" terms)	Rank
Most Professors at the University of ☆ Conducting a Small Class	6.03	1	5.99	1
Lecture Method Supplemented by Small Discussion Sections for Large Classes	5.64	2	5.38	6
Most Professors I Have Had at the University of ☆	5.60	3	5.80	2
Most Professors at the University of ☆ Conducting an Introductory Course	5.51	4	5.67	4
Most Professors at the University of ☆ Conducting an Advanced Course	5.44	5	5.76	3
Most Professors at University of ☆ Conducting a Large Class	5.33	6	5.34	7
Most Professors I Have Had at the University of ☆ Conducting a Lecture Course	5.20	7	5.61	5
Television Instruction Supplemented by Small Discussion Sections for Large Classes	5.19	8	4.73	8
Most Professors Conducting a Television Course	4.92	9	4.42	9
Teaching Machines	4.30	10	4.07	10
Straight Lecture Method for Large Classes	3.97	11	3.96	12
Television Instruction in Introductory Courses	3.72	12	4.02	11
Television Instruction in Advanced Courses	3.53	13	3.57	13
Straight Television Instruction for Large Classes	3.41	14	3.48	14

From the responses to the Initial Questionnaire, it can be concluded that a university faculty is, on the whole, self-confident about its instructional skills but seemingly possesses a relatively low opinion of instructional television. Curiously enough, however, when the professor was asked to project *himself* into a television teaching situation, his opinion of the medium in this context rose significantly.

It is interesting to note that in some of the non-ITV factors (not dealt with in the present report) which emerged from the factor analysis, self-concept items were prominently in evidence. In other words, professors seem to have great difficulty in detaching themselves from the teaching situation *in general*. This also reflects the operation of the "cognitive isolation" concerning ITV, discussed in more detail later in the present report in conjunction with the results of the factor analysis.

At this point in the investigation, a criterion to select the extremely favorable (Pro-ITV) and the extremely unfavorable (Anti-ITV) instructional television groups was established. Because it appeared to evoke the most unqualified reaction to ITV, the concept *Television Instruction in Large Enrollment Introductory Courses* was used. Since extreme scores on the *good-bad*, *weak-strong*, and *valuable-worthless* scales seemed to produce sufficiently substantial samples in terms of 7 and 6 (favorable) and 1 and 2 (unfavorable responses), this appeared to fill the need for a criterion. The samples of 55 Pro-ITV subjects and 65 Anti-ITV subjects were thus selected. The validity of this selection criterion was later confirmed in terms of responses to related open-end questions in the Pretest and Posttest Interviews.

GENERAL RESULTS

PHASE II. (Pretest Interview)

Two extreme groups were isolated utilizing the results from the Initial Questionnaire (the Pro-ITV and Anti-ITV groups) and were scheduled to participate in Phase II. These two groups, which included the 20 faculty members destined to perform the physical phase, were each given a face-to-face Pretest Interview by one of a team of clinical psychology professors. The questions, of the projective and open-end variety, dealt not only with ITV but also elicited responses relative to general philosophy of education and personality organization.

The pretest instrument in social psychological investigations is, intrinsically, a method of establishing or isolating certain attitudes and opinions as a base-line for the location of any change in attitudes caused by experimental conditions.

However, in the present investigation, since an interest in the university faculty in general is involved, the Pretest Interview also offered the opportunity to gain certain insights in depth concerning the faculty's philosophy of education and personality organization. This is not possible through a structured instrument such as the Initial Questionnaire. Therefore, before dealing with the ITV-related responses, we can examine some interesting responses in general.

120 respondents, the Pro-ITV and Anti-ITV groups, were asked the following question:

> How do you feel about the plan to control the effects of the large population increase on college enrollments which involves drastically upgrading the entrance requirements for students?

The majority of responses favored higher entrance requirements with the reasons most frequently given being, (1) "pick those who are able" and (2) "keep up standards of quality education".

Responses against upgrading indicated most frequently that it was "undemocratic". (Additional response categories for this question will be found in the APPENDIX.)

It is interesting to note here that not one response from the Pro-ITV group suggested that instructional television might alleviate the increasing classroom and teacher shortage, without the necessary upgrading of entrance requirements. This is an interesting example of cognitive "isolation" in Rokeach's (1960) terms. In that the Initial Questionnaire was used to select the extremely Pro-ITV professors, it seems more than unusual that a question with possible relevance to instructional television would not stimulate even a mere suggestion of its practical use. The omission could perhaps indicate that although the Pro-ITV professors *favor* instructional television to a high degree, they do not saliently perceive it in terms of immediate utilization. This is indicated in another manner in the results of the Factor Analytic Study, which, as indicated later in the present report, produced a "calculating, realistic-potency factor", a possible reflection of this same process.

Another question from the Pretest Interview was designed to reflect the old schism of *content* versus *method* in teaching:

> *As you know, there had been a lot of controversy recently concerning content versus method in teaching. For example, universities virtually never require prospective professors to obtain training in teaching methods. How do you feel about this practice?*

No. Responses	Respondents' Position
48	1. Content sufficient
32	2. Content important but method important also.
13	3. Both method and content of equal importance
9	4. Education courses not helpful, but some methods needed.
7	5. Method most important.
5	6. Depends on level of teaching: High school, college, or graduate.
6	7. Low incident answers.

It would seem, as shown in the above figures, that "method" in teaching is on the whole perceived less favorably than "content". This feeling among university faculty members, at least in part, may be a reflection of our current pre-occupation with "beefing up" our educational system as a result of a reaction formation which has developed against "progressive" education. In fact, "hard" content specialists in universities have traditionally been opposed to "methods" of teaching as a focal point.

An exceptionally provocative group of responses were elicited by a question dealing with Charles Van Doren, who was implicated in the so-called "television quiz scandals".

> #19. *If you were the president of a university and Charles Van Doren applied for a position as a faculty member, would you hire him? Why?*

In general, 43 respondents favored hiring Van Doren; 53 opposed; 25 were undecided. Below are listed the informal response categories as coded by the research staff:

No. Responses	Respondents' Position
(In Favor)	
48	Take advantage of this. Good instructor.
33	Van Doren corrected his mistake; give him another chance.
17	Everyone would have done the same thing.
16	Victim of circumstances.
16	No moral issue involved. It was done off campus.
2	If he has qualifications, hire him in a non-teaching position.
13	Miscellaneous.
(Against)	
40	Van Doren was dishonest, disqualified himself, lied, was immoral.
18	Unprofessional attitude, unethical. No excuse for his actions.
15	Bad public relations, harm to the university reputation.
14	He would lose respect of the students, lose their trust, set bad example.
5	Would distrust him and be wary of future honesty.
4	His contribution would be doubtful, uncomfortable.
14	Miscellaneous

This is an interesting indication that many university professors seem to regard colleagues who err ethically in the same harsh manner that is characteristic of other professional groups such as medical and legal.

Another pertinent item on the Pretest Interview concerned the reaction of the respondents toward the Initial Questionnaire which they had previously completed. When asked what things they liked most about the questionnaire, 75 responses were given. The response most frequently given was, "liked, easy to answer, clear and easily understood" (21). When asked what things they disliked about it, 198 responses were given, with the most frequent response being, "disliked questionnaire, ambiguous, confusing, unclear" (84). Frequency counts for all response categories on both "like" and "dislike" sides of the item appear beneath the question in the sample Pretest Interview form found in the APPENDIX. This over-all negative reaction toward the Initial Questionnaire suggests the "indirect" nature of the Osgood Scale as described by Osgood, et al. (1957). In fact, it was surprising that so many respondents did not react to the "ambiguity" of the instrument.

A question concerning teaching machines brought provocative results. The respondents were asked how they felt about teaching machines and why. The resulting distribution found them on the whole opposed to the use of such devices. Teaching machine instruction was favored by 29 respondents, opposed by 67, while 24 held no opinion. As a more sensitive indicator of the nature of this opposition, the total number of reasons stated for holding such attitudes were obtained by combining the responses from questions 9 through 12 (see Pretest sample form in the APPENDIX) and then categorizing them either favor or against.

The number of favor responses was 269, while the number of against responses was 290. Answers most frequently given representative of favor responses were, "Good for drill and practice" (48); "Reach more students, aid teacher shortage" (57); and "Standardize teaching, dependable" (25). Among the responses most frequently stated against teaching machines were, "Machine too impersonal, no discussion" (85); "Machine won't motivate student" (27); and "Machine can handle only facts, is uncreative" (31). (See the APPENDIX for additional responses to this question on the Pretest sample form.)

A summary of each Pretest Interview was conducted in which the recorded interviews for each respondent were rated in the manner described earlier on three of the following 9-point scales: Secure-evasive, where secure was given a scale value of 1 and evasive a scale value of 9 (the mean was found to be 5.29); on the scale Tolerant (1) - Hostile (9), 5.47; and Sophisticated (1) - Bland (9), 5.28.

These results gave us an over-all picture of our interviewees in the interview situation as being only very slightly evasive, hostile, and bland. In view of a generally expressed hostility toward the "intrusion" of psychological interviews by many of the professors, it is a tribute to our interviewing staff that this degree of apparent cooperativeness was obtained.

GENERAL RESULTS

PHASE III. (Video Taping Sessions)

Two complete departments in the College of Arts and Sciences participated in this phase. Both were selected because of decisions (made previously to the investigation)to reject the suggestion of telecourse offerings by their respective departments.

The experimental phase of the study - actual video taping sessions by the 20 participants (PARTC-ITVs) - took place during a single semester.

PARTC-ITVs were offered consultation, ITV reports, books, pamphlets, and other ITV information by the research staff. Basically, however, the planning and evaluation of each instructor's video tape presentation was left entirely up to him. It was postulated that this would cause the maximum degree of ego-involvement sought in the present investigation, which, indeed, appeared to be the case.

Subsequently few of the instructors availed themselves of research staff assistance to any appreciable degree. As a matter of fact, when participants actively sought detailed direction and structure, the project staff simply emphasized that it did not want to give anything but general assistance. It was felt that the investigation would be fulfilling its theoretical foundations most explicitly if the participants were as much on their own as possible.

Although the two groups, as indicated earlier, had previously resisted opportunities to use instructional television in actual courses, they finally agreed to participate in the experiment which, after all, did not commit them to offering telecourses. As an incentive, release time from other duties or over-time was subsidized.

From the Initial Questionnaire and the Pretest Interview, it was judged that the 20 PARTC-ITVs were divided almost equally into Pro-, Anti-, and Neutral-ITV groups, but, as we have stated, their previous collective behavior reflected resistance, which in a theoretical sense made them an ideal sample for a study of the dynamics of attitude modification.

Although their compliance to participate in the experiment was not literally "forced", it is conceivable that this compliance could in Festinger and Aronson's (1960) sense be defined as "forced". One reason was the subtle, or direct intra-group pressures exerted to meet departmental responsibility. Once the department as a whole had committed itself to participation, administrative support given to the investigation undoubtedly further reinforced this feeling. Finally, the subsidization received by each participating faculty member, who in a sense became a paid consultant, forced involvement for an ostensibly secondary gain which in the "life space" of the moderately paid professor would be quite salient. This possibility was also clearly reflected in the report of the Television Production Coordinator. This report was prepared by the Television Production Coordinator before, during, and after the video taping sessions. The written report outlined in detail his observations of the attitudes and behavior of the PARTC-ITVs during the production of their video taped lectures.

The following extracts indicate the manner in which some of the "recalcitrant" professors reacted under fire, in terms of an observant, professional television production manager. (A more detailed analysis of this report may be found in the APPENDIX.)

EXTRACTS:

PARTC-ITV "A"

"Pretest. Cooperative. Seems assured that VTR (video tape recorder) is a good experiment. After lengthy conversation, still resents administration attempts at cramming ITV down their throats - with no relief for putting lectures on TV - seems to want to be off-campus a great deal."

PARTC-ITV "B"

"Lecture outline almost ready... good shape with use of film... made pre-production tape... finished tape... seemed rather indifferent to whole process... an apparent change from his original attitude which was rather enthusiastic... probably due to complexity of production... seems most of those who go to such elaborate preparation lose interest when the actual taping begins... they apparently feel relegated to an inferior position, perhaps... tremendous VTR here... total of 17 splices ... over-all: a good tape... generally PARTC-ITV tends to bring a strong sense of the 'theatrical' into these things... still, most of the operating staff regarded PARTC-ITV's performance as one of the most dynamic..."

PARTC-ITV "C"

"No pre-production tape for him... he's been on VTR many times before and saw no need for it... final tape... good lecture... PARTC-ITV reacted favorably to the taping session."

PARTC-ITV "D"

"Ready to make full tape... very sociable... completed project... good tape... fair performance... read from notes almost entirely... considerable advance preparations... much ego-involvement with Project..."

PARTC-ITV "E"

"Pretest. . . good. . . asks for help freely. . . final tape. . . good. . . used some film and chart. . . clean and uncluttered presentation. . . tried hard. . . seems convinced that TV can be used as a 'tool'. . . "

PARTC-ITV "F"

"Pre-tape. . . good. Very critical of himself. . . watched playback carefully and made notes. . . got the point of how VTR can be used for improvement. . . probably for the first time. . . not sold on too many charts and other visuals. . . good tape. . . seemed to learn quite a bit from the experience. . . pleased with how little time it actually took to make the tape. . . "

PARTC-ITV "G"

"Pre-tape. Fairly hostile. . . wants much as possible. . . final tape . . . seemed fairly disinterested in the whole thing although he did give it a good try. . . "

PARTC-ITV "H"

"Preview tape. Cooperative. Final Tape. Good. But, probably only a fair use of TV's potential where course is concerned. Cooperative and well-prepared. Admitted how well he got on WITHOUT students around. . . seemed convinced about teaching improvements possibilities . . . wanted to improve his own performance, however, by doing it again someday. . . "

PARTC-ITV "I"

"Pre-production tape. . .10 minutes. He is worried about his accent and pronunciation . . . will pre-record audio portion to check on pronunciation (his idea). . generally, a good tape. Rather complex content-wise. He adapted to TV very nicely and seemed to evaluate the experience easily. . . "

PARTC-ITV "J"

"Final tape. TREMENDOUS use of models for demonstration. A good job. Cooperative. Worked hard on preparation. Easy to direct. . . "

GENERAL RESULTS

PHASE IV. (Posttest Interview)

The same group as Phase II (Pretest Interview) were given a personal Posttest Interview by one of a team of clinical psychology professors. Again the questions asked were ITV oriented, projective, and general open-end.

The Posttest Interview was administered to the same 120 respondents, divided, as stated previously, into three groups: Pro-ITV, Anti-ITV, and PARTC-ITV. At this time the Pro-ITV and Anti-ITV were sub-divided into two new groups:

1) those who Had Heard about the experiment (as an additional experimental group) and
2) those who Had Not Heard (as a control group).

Questions four and five on the Posttest Questionnaire were designed to elicit responses which could become criteria for this grouping. Thus, the final groupings became:

PARTC-ITVs / Experimental and Participating
(n=20 instructors who produced their own video tapes)

HH-ITVs / Experimental Non-participating
(n = 29 respondents from the non-participant faculty who Had Heard of the project)

HNH-ITVs / Control
(n = 68 respondents from the non-participant faculty who Had Not Heard about the project)

These three groups, two experimental and the other control, were used in the analysis as one basis for judging any influence our experimental conditions might have had, directly or indirectly, in changing attitudes. They will be discussed in detail in the ITV results and discussion section of the present report.

Here, as in the Pretest Interview results discussion, several more non-ITV items are reviewed.

The two projective questions discussed earlier were included, taken from Adorno, et al, (1950), and were directed at exploring personality and ideology in terms of the authoritarian-equalitarian dimension of the individual respondents. As indicated earlier in detail, an elaborate response analysis procedure was applied, using as a base the categories suggested by Adorno, et al, (1950).

The first of the two projective questions asked was: "What great people both living or dead do you admire the most?" Response distribution is listed as follows:

Authoritarianism	No. Respondents
1. High	59
2. Medium	35
3. Low	24

The second projective question was: " What experiences give you the greatest feeling of awe?" The distribution of responses is listed as follows:

Authoritarianism	No. Respondents
1. High	47
2. Medium	47
3. Low	24

On the basis of this admittedly limited exploration of this dimension, a sizeable group of our sample of professors were rated as highly authoritarian. Furthermore, a more impressionistic examination of the responses suggested that an equalitarian facade is present in many of these "high authoritarian" professors. If we examine some of the correlates of authoritarianism as described by Adorno, et al. (1950), (for example, rigidity, over-preoccupation with "power" and "toughness", over-concern with middle class conventions, anti-intraceptiveness, an unwillingness to peer "below the surface" in either themselves or others), we must conclude that university faculties have no less a representation of "authoritarian personalities" than many professional, social, or business groups that have been examined in previous reports.

Among the open-end, non-ITV involved items that also appeared on the Posttest was the following question: " What do you believe good university level teaching really consists of?"

There was a total of 287 responses given to this item. Some of the most frequent responses were:"Teacher should know content and keep up with research" (63); "Good preparation and use of methods" (55); "Teacher should have (pleasant) personality and should be interested in his students" (43); and "Should inspire students" (36). (Several additional but less frequently encountered response categories are detailed in the APPENDIX in the Posttest sample form.)

In a recent investigation conducted among a representative sample of university students by the senior author, it was found that "ability to communicate" was the single most important characteristic that students sought in an instructor. Factors such as research by the professor were considered of far less importance. The lack of parallelism between faculty and student concepts of good teaching is self-evident;

professors would appear to view good teaching in a much different light than do students.

The final Posttest item was:

"I believe you have already indicated to me what you believe good university teaching consists of. Now, imagine yourself in this situation. Supposing you were the Dean of a college and you wished to improve the teaching of your faculty. What approach would you take to this problem?"

The responses most frequently given were: "Give rewards of money and recognition" (48); "Hire competent teachers" (40); "Require refresher courses and further study" (28); "In-class observation and approval of lesson plans" (22); "Gather student opinions" (18); "Use group discussion and inter-departmental meetings" (16). Interestingly enough, this question elicited only one response category even slightly related to ITV. This was, "Use audio-visual aids, including television" (12). Obviously, even the strongest proponents of ITV do not visualize its use in the context of "improvement of teaching".

Of the 259 responses to this question, 16 stated that it "was not possible for me to improve the teaching faculty". (Several other response categories which were less frequently found are detailed in the APPENDIX).

On this note of cynicism, we now proceed to the next section of our report.

ITV

RESULTS AND DISCUSSION

FACTOR ANALYSIS

Introduction:

The factor analysis of the 300 Osgood variables from the Initial Questionnaire was completed at the Survey Research Center, University of California at Berkeley.

Factor Analysis is a statistical technique that attempts to ferret out from a large group of responses those that are inter-related or overlapping and bring to the surface underlying determinants. Factor analysis might be compared to the appraisal of a completely new product by looking only at its contents.

For instance, a new exotic food item appears on the market. Although it may be packaged in such a manner as to be tactually and visually obscure, the predominant contents listed on the label would give some indication of the product. You may be sure that it contains other random items which are, however, negligible to the composition of the over-all product. Furthermore, the label might list items that the product does not contain, e. g., "salt-free" for dietary purposes. From the listed contents one must "intuit" to some extent the characteristics of the product. In factor analysis, one must likewise "intuit" from the variables which appear and their praticular loadings. Some variables, therefore, are as important for their negative loading in a factor, just as the excluded contents of our hypothetical food were important in describing the over-all product.

Procedure:

As the reader may recall, the procedure was described in a brief manner earlier in the present report. In the interest of fuller clarification, a more detailed discussion follows.

It was elected to secure rotations by quartimax method, which attempts to account for variables in as few factors as possible. Factor analytic programs for 300 variables were not available; so, using a unique method developed by Samuel Pinneau, who served as the statistical coordinator for the present study, 4 stratified samples of 75 variables each were used. There were 3 groups for each of the 30 concepts, based on the Evaluative, Potency, and Activity dimensions - or a total of 90 groupings. The scales of the rational categories were randomly assigned to one of the two new groupings, which yielded 2 comparable groups in terms of their representation of each concept and of the Osgood dimensions.

Because "round-off" errors accumulate at such a rapid rate when more than a hundred variables are analyzed by the Centroid Factor Analytic Program, each of these groups of 150 scales were broken down into two 75 item groups by taking the odd numbered items for one group and the even numbered items for the other.

The four separate analyses were run through correlational routines and also the Centroid Factor Analytic Program. The factor loadings were then rotated. Twenty factors were extracted from each study of 75 items. One would usually extract a smaller number using some criterion for stopping extractions. Admittedly, many of the 20 factors may be meaningless. A different consideration is encountered, however, when one uses stratified sampling of variables and combines the factors obtained from 4 different samples of variables. A given factor which meets a restrictive criterion in one set of items may not reach the criterion in others. Still the factor could be meaningful and represented in the other group to a measurable extent. Indeed, a factor which does not meet such arbitrary criteria, if present in two or three of the item groupings, could hardly be considered to surface by chance and should be regarded as meaningful.

Thus the criterion employed in the present study regards factors as significant if they appear in both of the analyses. But by continuing the analysis beyond the usual bounds, i. e., to 20 factors, it seems unlikely that a meaningful factor in any one of the analyses would be left out if present to a measurable extent in one of the four matrices.

Only the factor analytic data based on ITV-related items will be presented in the present report, and of these only the first 9 factors within each of the 4 studies. The tables also consider just the items which correlate with hypothetical dimensions (the factor content) to the extent of .25 or greater. The relatively low value was chosen to prevent exclusion of any variables which might be at least theoretically significant to the nature of the hypothetical dimension. The complete list of individual factor loadings will be presented in the additional report referred to earlier.

Results and Discussion:

In the following results and discussion, the reader will note that the authors, ad hoc, placed "labels" on the various factors which have emerged. It is hoped that the reader will recognize (as is always the case in dealing with results of factor analytic studies, as indicated earlier) that such "labels" and broadly related interpretations of factors are basically subjective processes. It is therefore hoped that the reader will not take the authors' discussion too literally and, in fact, will feel free to re-interpret these factors from still different frames of reference.

One may conceive of each of the resulting factors as relating to one of two patterns with respect to the meaning of ITV to the respondents in the present investigation. These two patterns are: (1) "Pure ITV", or factors which show intra-related concepts within the ITV framework and (2) "ITV with non-ITV", or factors relating ITV concepts to the individual's pre-established attitudes or cognitive structures concerned with the general university climate.

Ten factors which reflected the patterns referred to above are detailed in the table which follows.

Table 7

FACTOR ANALYSIS

Diverse ITV Evaluative Factor

(Study 1 / Factor 2)

	Item	Scale	Loading
1.	Television Instruction in Introductory Course	Fair-Unfair	.888
2.	Television Instruction in Introductory Course	Honest-Dishonest	.854
3.	Television Instruction in Introductory Course	Good-Bad	.763
4.	Television with Discussion Groups	Fair-Unfair	.567
5.	Straight Television Instruction for Large Class	Weak-Strong	.565
6.	Television in Advanced Courses	Fair-Unfair	.406
7.5	Television with Discussion Groups	Fast-Slow	.398
7.5	Television in Advanced Courses	Fast-Slow	.398
9.	Myself Conducting Television Course	Worthless-Valuable	.385
10.	Straight Television Instruction for Large Class	Passive-Active	.365
11.	Myself Conducting Television Course	Fair-Unfair	.348
12.	Correspondence Courses	Honest-Dishonest	.337
13.	More Fringe Benefits	Honest-Dishonest	.328
14.	Myself Conducting Television Course	Good-Bad	.313

(Study 2 / Factor 2)

	Item	Scale	Loading
1.	Television in Advanced Courses	Good-Bad	.824
2.	Television in Advanced Courses	Worthless-Valuable	.822
3.	Television in Advanced Courses	Weak-Strong	.753
4.	Straight Television Instruction for Large Class	Worthless-Valuable	.390
5.	Straight Television Instruction for Large Class	Fair-Unfair	.303
6.	Myself Conducting Television Course	Rough-Smooth	.282
7.	Straight Television Instruction for Large Class	Rough-Smooth	.260

Diverse ITV Evaluative Factor (Cont.)

(Study 3 / Factor 2)

Item		Scale	Loading
1.	Television with Discussion Groups	Worthless-Valuable	.832
2.	Television Instruction in Introductory Courses	Worthless-Valuable	.825
3.	Television with Discussion Groups	Good-Bad	.810
4.	Television Instruction in Introductory Course	Weak-Strong	.712
5.	Television with Discussion Groups	Unpleasant-Pleasant	.711
6.	Television Instruction in Introductory Course	Unpleasant-Pleasant	.703
7.	Straight Television Instruction for Large Class	Unpleasant-Pleasant	.611
8.	Straight Television Instruction for Large Class	Honest-Dishonest	.496
9.	Television in Advanced Courses	Unpleasant-Pleasant	.452
10.	Television in Advanced Courses	Honest-Dishonest	.416
11.	Myself Conducting Television Course	Weak-Strong	.357
12.	Myself Conducting Television Course	Honest-Dishonest	.349
13.	Correspondence Courses	Passive-Active	.258
14.	Correspondence Courses	Unpleasant-Pleasant	.251
15.	Frontier Fiesta	Passive-Active	.250

Teaching Technique Activity-Potency Factor

(Study 1 / Factor 9)

1.	Training in Teaching Methods for Professors	Rough-Smooth	.650
2.	Training in Teaching Methods for Professors	Hard-Soft	-.546
3.	Teaching Machines	Hard-Soft	-.419
4.	Additional Tuition Increase	Fast-Slow	-.382
5.	Television with Discussion Groups	Rough-Smooth	.372
6.5	Honors Courses of Text and Exam	Fast-Slow	-.312
6.5	Answering Questions in Large Class	Rough-Smooth	.312

Diverse ITV Potency-Activity Factor

(Study 2 / Factor 7)

1.	Television with Discussion Groups	Weak-Strong	.645
2.	Straight Television Instruction for Large Class	Worthless-Valuable	.608
3.	Straight Television Instruction for Large Class	Fair-Unfair	.575

Diverse ITV Potency-Activity Factor (Cont.)
(Study 2 / Factor 7)

	Item	Scale	Loading
4.	Television with Discussion Groups	Honest-Dishonest	.558
5.	Television Instruction in Introductory Course	Passive-Active	.373
6.	Television Instruction in Introductory Course	Rough-Smooth	.318

Evaluative Didactic Instruction Factor
(Study 2 / Factor 9)

1.	Straight Lecture Method	Worthless-Valuable	.819
2.	Straight Lecture Method	Fair-Unfair	.756
3.	Straight Lecture Method	Unpleasant-Pleasant	.492
4.	Straight Television Instruction for Large Class	Worthless-Valuable	.304
5.	Straight Television Instruction for Large Class	Fair-Unfair	.280

Calculating Realistic Potency Factor
(Study 3 / Factor 4)

1.	Emphasis on Research	Hard-Soft	.672
2.	Myself Conducting Television Course	Hard-Soft	.640
3.	Myself Conducting Large Class	Hard-Soft	.618
4.	Myself Publishing Research	Hard-Soft	.590
5.	Higher Entrance Requirements	Hard-Soft	.553
6.	Frontier Fiesta	Hard-Soft	.466
7.	Honors Courses of Text and Exam	Rough-Smooth	-.449
8.	Myself Conducting Television Course	Honest-Dishonest	.391
9.	Myself Conducting an Introductory Course	Fast-Slow	.340
10.	Admitting Qualified Negroes	Rough-Smooth	-.314
11.	Night Students	Fair-Unfair	.304
12.	Becoming a State University	Rough-Smooth	-.268
13.	Larger Salary Increases	Fast-Slow	.255
14.	Myself Conducting Advanced Course	Honest-Dishonest	.235

Self-Evaluative Factor
(Study 3 / Factor 8)

1.	Myself Conducting Large Class	Honest-Dishonest	.639
2.	Myself Conducting Advanced Course	Honest-Dishonest	.582
3.	Training in Methods for Prospective Professors	Honest-Dishonest	.387
4.	Emphasis on Research	Honest-Dishonest	.347
5.	Myself Conducting Television Course	Honest-Dishonest	.318

Diverse ITV Potency Factor
(Study 4 / Factor 4)

Item		Scale	Loading
1.	Television Instruction in Introductory Course	Hard-Soft	.761
2.	Straight Television Instruction for Large Class	Hard-Soft	.754
3.	Television in Advanced Courses	Hard-Soft	.651
4.	Television with Discussion Groups	Hard-Soft	.568
5.	Training in Methods for Prospective Professors	Hard-Soft	.363
6.	Television in Advanced Courses	Passive-Active	.253

As can be gleaned from this table, three factors appeared to show intra-related ITV attitudes or concepts. One of these "Pure ITV" factors that might be designated as a "Diverse-ITV-Evaluative-Factor" appeared in all but the fourth study. A second factor that might be designated as a "Diverse-ITV-Potency-Activity-Factor" appeared in the second study. The third "Pure ITV" factor appeared in the fourth study and may be designated "Diverse-ITV-Potency-Factor".

The "Diverse-ITV-Evaluative-Factor" showed the intra-relationship of evaluative attitudes of ITV with its application to (1) introductory courses; (2) discussion groups; (3) advanced courses; (4) large courses; (5) self-evaluations as ITV Professors. Also appearing in this factor was an apparent relationship of ITV to correspondence courses. It might be noted here that the extreme Pro- and Anti-ITV groups also responded to the concept of Correspondence Courses in a manner similar to their responses to ITV concepts, i.e., the Pro-ITV group gave a significantly higher evaluation to Correspondence Courses than did the Anti-ITV group. (See discussion of Pro- versus Anti-ITV group data.) Although the Correspondence Courses item factor loading never exceeded .337, the fact that it occurred 3 times lent some validity to the statement of a relationship of faculty attitudes toward such courses and their attitudes toward ITV. Of the 36 items loading on this factor in 3 different studies, 25 were from the Osgood Evaluative Scales.

Another factor which illuminated some intra-relatedness of ITV items was the "Diverse-ITV-Potency-Activity-Factor". This factor appeared as the 7th factor in Study 2. The most heavily loaded item in this factor was "TV with discussion groups - Strong" (.645). Half of the items appearing in this factor were from either Osgood Activity or Potency Scales. From these data concerning this factor one might hypothesize that ITV attitudes showed an activity-potency intra-relationship among the concepts of ITV applied to (1) Discussion groups, (2) Large classes, and (3) Introductory courses. In general one might say that this factor reflected an Activity-Potency facet concerning the nature of many of the items included in the "Diverse-ITV-Evaluative-Factor".

The final factor to be discussed here concerning intra-relationships of concepts within the ITV framework is the "Diverse-ITV-Potency-Factor" which appeared as the fourth factor of Study 4. All but one of the 6 items loading on this factor were from the Osgood Potency Scale, "hard-soft". The single exception was the least heavily loaded item "ITV in Advanced Courses - Active". Again intra-relationships were found between ITV with (1) Discussion groups, (2) TV for large classes, (3) TV for introductory courses, (4) TV with discussion groups, and (5) TV in advanced courses. A relationship of ITV to "Training in teaching methods for prospective professors" also appeared in this factor.

Conceptualizations of and attitudes toward aspects of ITV appeared related to non-ITV concepts and attitudes in 4 factors. The first of these factors designated as a "Didactic-Instruction-Evaluative-Factor" appeared as the ninth factor in Study 2. The relationship between "Straight lecture method" and "Straight TV for large classes" might reflect less concern with ITV as such, but rather indicate a limited didactic approach to teaching in general. All 5 items loading on this factor were from Osgood Evaluative Scales.

In the factor "Teaching Technique-Activity-Potency-Factor" relationships of ITV to other teaching methods were noted. The only ITV item which appeared within this factor was "TV with discussion groups". It appears to be related to the concepts "Training in teaching methods for professors", "Teaching machines", "Answering questions in large classes", "Honors courses", and "Additional tuition increase". With the exception of the item concerning "Additional tuition", one might conceive of this factor as indicating an integration of ITV conceptualizations into an existing cognitive structure. Such a cognitive structure *might reflect a preoccupation with a variety of teaching methods.*

The third factor related to ITV with non-ITV attitudes and conceptualizations was found in the third study and was designated a "Self-Evaluative-Factor". Among the items appearing in this factor (which all loaded on the "honest-dishonest" Evaluative Scale) were 3 "myself" items including "Myself conducting a TV course". Apparently related to these "myself" evaluations were "Training in teaching methods for prospective professors" and "Emphasis on research". Again we have here an instance of ITV being integrated into an already existing focus of concern. In this instance, the cognitive structure might be regarded as a concern with the professor's self-image and "doing the right thing" in terms of what is expected of him in the university climate.

All of the items which appeared in the above "Self-Evaluative-Factor" were found to appear also in the third factor which was described as a "Calculating Realistic-Potency-Factor". This factor seems to reflect a relationship of its included items with the items appearing loaded on the "Self-Evaluative-Factor". Whereas, in the "Self-Evaluative-Factor" the professor seems to display a subjective concern with himself and the appropriateness of his behavior, here he is concerned with his competence to objectively assess concrete realities. Among the wide range of inter-related concepts appearing in this factor were "Emphasis on research"; "Myself conducting TV introductory and advanced courses"; Higher entrance requirements"; "Myself doing publishable research"; and ". . . Becoming a State University". Of 14 items which were loaded on this factor, 9 were from the Osgood Potency Scales. Here we have reflected a strong tendency to see things as they "really" are with a skeptical, "no nonsense" approach.

In briefly re-examining the results of the Factor Analysis, it appears that some very significant aspects of professors' attitudes toward ITV have emerged. First of all, it can be pointed out that professors, although they are perceived by advocates of ITV as being preoccupied with a nemesis-like conception of the medium, very often evidenced attitudes toward ITV that have, in fact, resulted from an incorporation of ITV concepts into an already existing structure of attitudes and cognitions. Such pre-established attitude and cognitive structures were found, in the case of these professors, to be concerned with the over-all university teaching situation and the professors personal, general philosophy of life. On the other hand, there is indeed a basis for suggesting that the professors may, in some instances, isolate and "see" ITV in a context specific to the medium. In such a specific ITV context the professors' attitudes and conceptualizations center or converge upon ITV, per se.

This factor analysis, in addition to being a rather interesting examination of cognitive structures and feelings concerning ITV, also may be seen as an exercise in terms of what some writers have referred to as "isolation and differentiation" of attitudes (Rokeach, 1960). Certainly, we find here a clear instance of some individuals displaying a rather isolated attitude (relating specifically to ITV) and other individuals expressing a high interrelationship among attitudes (ITV as related to the individual and his academic environment).

Rokeach (1960, pp. 36) speaks of such an isolated attitude as actually expressing "the existence of logically contradictory beliefs within the belief system". He has proposed as an example the frequently denoted attitude of "believing in freedom for all, but also believing that certain groups should be restricted". A parallel to this type of isolation was seen in this study as typified by such statements from individuals as the following: "ITV is fine instructional medium, but not for my subject area"; and "ITV is the best means to reduce expenses in time, money, and facilities, but I would get out of teaching if I had to use it". The factor analytic data point to the existence of a similar "isolation" factor in reacting to ITV.

These data may be thought of as presenting an interesting example of a cognitive model of the organization of attitudes and thus are rather interesting from the standpoint of attitude theory.

Parenthetically, as the reader may observe from Table 5, it might be mentioned that although all three Osgood factors often converge in the expected directions, exceptions are frequent enough to voice again the question of the "purity" of particularly the Activity dimension.

ITV

RESULTS AND DISCUSSION

THE ANTI-ITV AND PRO-ITV PROFESSOR

In the interest of a more literate flow, only the most significant results and inferences from the over-all data have been integrated into the text of the present report. An exposition of the analyses which yielded insignificant differences, it was felt, would add little to the present report since only extreme groups were compared.

First of all, definite "images" of the Pro-ITV and Anti-ITV professor may be projected from the results of the present investigation. One important aspect of these "images" seems related to the professional fields most frequently represented in the two extreme groups.

Pro-ITV and Anti-ITV respondents were first categorized according to departmental disciplines; these specific disciplines were then collapsed into seven general instructional fields. A binomial, non-parametric test of significance was used (Siegel, 1956) to compare frequencies of the Pro-ITV and Anti-ITV subjects categorized in these seven general fields. The following table reflects this information.

Table 8

Membership of Pro- and Anti-ITV Groups In Seven General Instructional Fields

Field	Departments	Frequency		p
		Pro-ITV	Anti-ITV	
Engineering and Technology		12	3	.02
Communication Arts	Music, Art, Radio-TV, Journalism, Architecture, News Service	12	5	.07
Business	Economics, Finance, Accounting, General Business	9	2	.03
Social Sciences	Psychology, Political Science, History, Military Science	4	12	.04
Physical-Biological Sciences	Mathematics, Physics, Chemistry, Biology, Pharmacy, Geology	5	15	.02
Humanities	Philosophy, English, Foreign Language	4	9	.13
Education	Elementary Education; Secondary Education; Health, Safety, and Physical Education	4	9	.13

As can be seen in the preceding table, the general fields which contain the most Pro-ITV respondents were Engineering-Technology (.02 level of confidence), Communication Arts (.07 level), and Business (.03 level). Anti-ITV subjects were most frequently in the general instructional fields of Social Science (.04 level of confidence), Physical-Biological Sciences (.02 level), Humanities (.13 level), and Education (.13 level).

The Pro-ITV respondents were found to be members of 29 different departments; the Anti-ITV respondents were located in 24 different departments. Thus, it may be stated that the Pro-ITV sample was representative of a somewhat broader spectrum of academic disciplines than was the Anti-ITV sample. A careful analysis of the departmental memberships held by the extreme groups indicated that the Pro-ITV group was represented more often by 4 or less members within a department. The incidence of only a single member of a department appearing in the Pro-ITV group was noted 18 times, while it occurred in the Anti-ITV group only 12 times. While the Pro-ITV group was never represented by more than 4 people within any single department, the Anti-ITV group was represented by 5 people in one department, 6 people in 2 departments, and 9 people in still another department. It might therefore be hypothesized from these data that the Pro-ITV professor is more likely to hold his attitude toward ITV as an individual not particularly dependent upon or receiving the support of his colleagues. On the other hand, it might be hypothesized that the Anti-ITV professor's attitudes tend to be nurtured by intra-departmental group support or pressures. However, this interpretation must be tempered by the fact that these data are not necessarily relative to the total number of members in the departments cited.

Obviously, not all disciplines, or all members of departments in any one discipline are reflected in these extreme groups. As a matter of fact, it must be kept in mind that with few exceptions most respondents in all disciplines fell in a "middle" group - neither strongly in favor of nor strongly opposed to ITV.

Other data which reflects the distinction between the extreme groups is represented in the following table describing the Pro-ITV professor.

Table 9

94 Items in which the Pro-ITV Group Responded Significantly Higher than the Anti-ITV Group

Initial Questionnaire
Osgood Data

Item	Significance Levels			
	.01	.02	.05	.10
Frontier Fiesta		Pleasant	Honest Valuable	Good
Athletic Scholarships	Good Honest Fair Pleasant Valuable			
More Fringe Benefits with Smaller Salary Increase	Good Pleasant	Smooth Fair	Strong	
Emphasis on Research				Strong Valuable
Training in Teaching Methods for Professors			Valuable	
Training in Teaching Methods for Prospective Professors			Fair	Active
Lecture Method Supplemented by Small Discussion Section for Large Classes				Pleasant
Television Instruction in Introductory Courses	All Scales			
*Straight Television Instruction for Large Classes	9 Scales of 10			

* - "Hard-Soft" not significant

Item	Significance Levels			
	.01	.02	.05	.10
Correspondence Courses	Fair Strong	Smooth		Good Active Hard
* Television Instruction Supplemented by Small Discussion Section for Large Classes	8 Scales of 10		Smooth	
* Television Instruction in Advanced Courses	8 Scales of 10	Active		
Teaching Machines	Honest Strong Valuable	Fair	Good	Fast
* Myself Conducting a Television Course	7 Scales of 10			Active Fast
Myself Conducting a Small Class		Strong		

Academic and Background Data

Item	Significance Levels			
	.01	.02	.05	.10
Teaching Methods Preferred:				
Class Demonstration			x	
Field Trips			x	
Motion Pictures	x			
Suppl. TV Viewing	x			
Teaching Machines	x			
Television Lectures	x			
Total number of various teaching methods selected was higher for Pro-TV group.				x
Criteria for Evaluating Students:				
Attitude				x
Objective Tests				x
Promptness in Completing Assignments				x

* - "Hard-Soft" not significant

Academic and Background Data (Cont.)

	Significance Levels			
Item	.01	.02	.05	.10
More Pro-ITV have taught at more institutions.		x		

Pre-Experimental Interview

	Significance Levels			
Item	.01	.02	.05	.10
Liked Questionnaire		x		
Approved Questionnaire	x			
Judges Overview Ratings over questions 8-12 (all concerning teaching machines)	Favor			
Judges Overview Rating over questions 13-16 (Imagine self strongly favoring ITV; Imagine self strongly opposed to ITV; How personally feel about ITV and why)	Favor			
Hire Van Doren?			Yes	
Was good instructor.				x
Summary of Interview Ratings	Tolerant Sophisticated			

Post-Experimental Interview

		Significance Levels		
Item	.01	.02	.05	.10
Number of miscl. advantages in using VTR to improve teaching.				x
Judges Overview Ratings of questions 8 & 9 (Personal Feeling to TV & why)	Favor			

In surveying the pattern of items responded to more favorably by the Pro-ITV professors, several abstractions might be made. The over-all array of items seem to indicate that the Pro-ITV professor is highly flexible in his approach toward education. He will readily admit concepts of a non-pedogogical nature to enter and interact with his tutorial alignment. This is evidenced by his acceptance and higher evaluation of such concepts as "Frontier Fiesta" (a student social activity) and "Athletic Scholarships". He will also precede his Anti-ITV counterpart in admitting the concept of "Research" into the instructional setting.

In his approach to instruction, the Pro-ITV professor will use a much greater variety of teaching methods than will an Anti-ITV professor. Included in the battery of teaching methods which the Pro-ITV professors might be willing to use are the following: Lecture method with discussion groups; Correspondence courses; Teaching machines; Class demonstrations; Field trips; Motion pictures; Supplemental television viewing; and Television lectures. Furthermore, the Pro-ITV professor is more willing to express the need for training in teaching, both for himself and for prospective professors.

The Pro-ITV professor chooses to evaluate his students along more diverse lines than does the Anti-ITV professor. Among the criteria which the Pro-ITV professor prefers to use more often are "objective tests", "promptness in completing assignments", and "attitude".

Naturally, great differences were found between the Pro- and Anti-ITV groups on such controversial criterion items as "TV instruction in introductory courses", "Straight television for large classes", and "Television with discussion groups". All differences were found to be in the predicted direction and thus served to validate the composition of the criterion groups. Apparently, the Pro-ITV professor has the feeling that television has its prime value in "aiding the teacher shortage". He also responded with a significantly greater number of miscellaneous advantages of the video-tape recorder and a significantly greater number of general ITV approval responses.

An over-all rating compiled from the interview data found the Pro-ITV professor to be significantly more tolerant of the interview situation. Also related to this willingness to be scrutinized were the findings concerning attitudes toward the Initial Questionnaire. The Pro-ITV professor stated his "approval and like" for the Initial Questionnaire significantly more often than did Anti-ITV professor.

A similar over-all rating was executed which attempted to evaluate the respondents in terms of scales spanning the concepts "sophisticated" to "bland". Some of the rating criteria were, for example, "clarity of statements", "range of interests", and "critical thinking". The pro-ITV professor scored significantly higher in sophistication than did his opposite. The fact that the Pro-ITV professor had taught at more different institutions is probably related to this characteristic of sophistication. It would probably be safe to hypothesize that exposure to a large number of different institutions would increase and broaden a professor's philosophy of education and contribute to a development of a "world-view" rather than a narrow conception of education, as well as increase a professor's knowledge of subject areas which were not classroom-bound.

Turning now to the other extreme, a listing of items in which the Anti-ITV group scored significantly higher than the pro-ITV group may be found in the table that follows.

Table 10

30 Items in which the Anti-ITV Group Responded Significantly Higher than the Pro-ITV Group

Initial Questionnaire
Osgood Data

	Significance Levels			
Item	.01	.02	.05	.10
Night Students				x
Additional Tuition Increase			Unpleas.	
Larger Salary Increase with Fewer Additional *Fringe Benefits*	Pleasant Hard Valuable		Good Honest	Fair Strong
Becoming a State University	Active Fair		Good Honest Valuable	Strong Pleasant
Admitting Qualified Negroes	Active Strong	Fair	Good Smooth	
Straight Lecture Method		Pleasant		
Answering Students Questions in Large Classes	Good			
Myself Conducting a Lecture Course	Good			
Myself Conducting a Large Class				Good

Academic and Background Data

	Significance Levels			
Item	.01	.02	.05	.10
Criteria for Evaluating Students" Spelling				x

Pre-Experimental Interview

Item	Significance Levels .01	.02	.05	.10
Heavier Teaching Load			x	
Hire Van Doren?			Against	
He had unprofessional attitude, was unethical, dishonest, immoral				Closely approached this level
Number Miscellaneous Disadvantages to ITV		x		

In responding to the specific questions, "How do you personally feel about television?" and "Why?", the Anti-ITV group gave the following responses significantly more often than did the Pro-ITV group.

Item	Significance Levels .01	.02	.05	.10
Television Courses Give Bad Results	x			
Inter-personal Relationships Left Out		x		

In responding to the specific questions, "How do you personally feel about television?" and "Why?", the Pro-ITV group gave the following responses significantly more often than the Anti-ITV group.

Item	Significance Levels .01	.02	.05	.10
General Statements				
"TV Good"	x			
Aid Teacher Shortage	x			

As an opening insight into the structure of the Anti-ITV professor's attitude, one may immediately contrast the flexibility of the Pro-ITV professor with the academe-centered disposition of his Anti-ITV contemporary.

This rigidity-flexibility concept was not only limited to internal, pedogogical questions, but also generated, in some degree, from questions of an extra-curricular and non-academic nature. Whereas, the Pro-ITV professor has a tendency to evaluate more favorably those concepts removed from his immediate educational realm, the Anti-ITV professor sometimes tends to rate such "alien" activities with indifference. Either that or he counterrelates them to his academic station, usually in terms of "professional-ethic" or "morality-bound" conceptions. An example of this type of orientation is seen in the hypothetical question concerned with the hiring of Charles Van Doren[1]. The Anti-ITV professor was typically against his employment, specifying as grounds for his decision that Van Doren was "unprofessional in his attitude", "unethical", "dishonest", and "immoral".

A greater concern for the traditional approach to instruction is indicated by the significantly higher evaluations given by the Anti-ITV professor on such concepts as "Straight lecture method", "Answering student questions in large classes", and with other concepts reflecting ego-involvement or self-improvement factors such as, "Myself conducting a lecture course" and "Myself conducting a large class". It may be pointed out that on two of the "Myself" items, the Anti-ITV professor evaluated himself higher than did the Pro-ITV professor. Since this higher self-evaluation by the Anti-ITV professor appeared significant in only the "Myself conducting a..."items, one might conclude that these data are a further verification of the "professionalistic" disposition of the Anti-ITV professor.

The higher evaluation given by the Anti-ITV professor to the concept, "The university becoming a State university" may be again fitted into this pre-eminent concern with the academic aspects of his existence. Somewhat less clearly visible is the rationale for the high evaluation given by the Anti-ITV professor to the concept, "Admitting qualified Negroes to the University". One possibility may be that to the Anti-ITV professor the word "qualfied" is more salient than "Negroes", thus he is again reacting to the more academic side of an issue. If such is the case, one would predict that the Anti-ITV professor would give a similarly high evaluation to any concept which contained the word "qualified", e.g., "Admitting qualified Orthovians (nonsense ethnic group) to the University". In other words, the response with respect to this concept would not be indicative of affect related to a racial group, as was

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1. Although the incidence of any of these responses only approached statistical significance, it is clear that had all the specific Anti-Van Doren responses of this nature been collapsed into a single category, the difference would have become statistically significant.

intended, but rather a "congruency" as described by Osgood and Tannenbaum (1955) or a "consonance" as described by Festinger (1957) between the word "qualified" and a pre-established cognitive structure or "set".

As would be predicted (Evans, 1952) in the operation of the quasi-role playing technique of measuring attitudes, the Anti-ITV professor was able to give significantly more miscellaneous disadvantages to ITV, and in particular he gave the following specific statements with a significantly greater frequency: "TV courses give bad results" and "Interpersonal relationships are left out".

Although the Anti-ITV professor is concerned with inter-personal relationships, as we have seen, he tends to use fewer criteria in the evaluation of students. Furthermore, the single criterion which he prefers to use more often than the Pro-ITV professor in evaluating his students is the somewhat pedantic, but not too surprising criterion of "Spelling".

The Anti-ITV professor is also apparently more concerned with "Larger salary increases with fewer fringe benefits". This concern may also reflect his pointed interest in general, intra-institutional questions. An alternative possibility in the interpretations is found when this is related to another concept - Anti-ITV professors carry a heavier teaching load than do the Pro-ITV professors. Typically, in U. S. universities, professors who are assigned large teaching loads are those whose names appear at the lower end of the pay schedule. Possibly the reason for this is that because they have lower rank, they are less productive in professional writing or research. This might lead to the hypothesis that, in general, the Anti-ITV professor receives a lower salary than does his Pro-ITV counterpart. (A consideration of this hypothesis was impossible in the present study because of university restrictions concerning the publication of professors' individual salaries.)

In summary, we may picture the Pro-ITV professor as being relatively flexible, mobile, and sophisticated in his thinking and teaching. He is interested in a wide range of questions which transcend the boundries of the university as an institution. At the opposite extreme, we find the Anti-ITV professor who prefers to restrict himself to questions and events revolving more narrowly within the academic framework. He spends more time doing what he thinks he does best - teaching by the traditional methods. To the Anti-ITV professor, questions which have the most intrinsic value are those which concern his relationship to his professional environment.

Before advancing further into other aspects of the investigation, it was felt that the reader should be reminded again to regard the sketches which have been drawn of the Pro-ITV and Anti-ITV professors as depicting two extreme groups. Probably no one professor, even falling into these groups in a significant statistical sense, could be found who would manifest all of the characteristics of such prototypes. In fact, most of the faculty fall in a group central to the extreme polarities described here; therefore, they would no doubt reflect characteristics observed in both extremes.

In the present report, the use of extreme groups was merely a vehicle of communication and exploration which is widely found in the social psychological literature. It is hoped that the reader will not "over-interpret" and derive value judgements (good or bad) concerning the nature of professors friendly or hostile to ITV. A case in point involved THE AUTHORITARIAN PERSONALITY (1950) which was based on a similar methodology. Much criticism of this classic research endeavor was not justified in terms of the expressed intent of the investigators in that particular research effort.

ITV

RESULTS AND DISCUSSION

EFFECTS OF A "NATURAL SETTING" VIDEO-TAPE EXPERIMENT ON FACULTY ATTITUDES TOWARD INSTRUCTIONAL TELEVISION

The experimental aspect of the present investigation concerned a theoretical probe into the dynamics of attitude change; apropos of this exploration, the following initial question was posed:

> "Can a 'forced compliance' situation (Festinger, 1957) which consists of producing individual professor's lectures on video-tape as an ego-involving device, modify their attitudes toward instructional television?"

This section of the report will therefore attempt to ascertain possible attitude changes resulting from the professors' participation in the operational, or video-taping, phase of the present investigation.

As stated previously, the total number of respondents who had been subjected to the Pretest and Posttest Interviews (which bracketed the operational phase) were divided into three groups: The first group, known as the PARTC-ITVs, was comprised of the 20 instructors from two complete departments which actually participated in the VTR production. The second group, known as the HH-ITVs, was comprised of 29 subjects. They were not actively involved in the experiment, but HAD HEARD or had some knowledge of the video taping effort. In this HH-ITV group, 10 reported hearing opinions "against" the effort, 4 had heard an opinion "in favor", 4 had heard mixed feelings toward it, and 13 stated that they had heard something about it but were vague about the specific attitudes.

The third group, known as the HNH-ITVs because they HAD NOT HEARD about the operational phase, consisted of 71 respondents to the Pretest Interview and 68 respondents to the Posttest Interview. Both the HH-ITVs and the HNH-ITVs represented a diverse sampling of the university faculty.

There were 48 different items which appeared on both the Pretest and Posttest Interviews in identical or nearly identical form, either as questions or as parallel responses to questions. For each of the 3 groups, Chi Squares were computed between the distributions of responses on each of the 48 parallel items (see Table 4 in the APPENDIX).

Results of the Analysis of Comparison of Repeat Questions on the Pretest and Posttest Interviews.

In this section, which contains the analysis of repeat questions from the Pretest and Posttest Interviews, an absolute value placed on tests of statistical significance is impossible for two critical reasons:

(1) The total n's of the PARTC-ITV group (n = 20) and the HAVE HEARD group (n = 29) indicates that we are dealing with relatively small samples. This fact, of course, demands very high differences in order to yield statistically significant results.

(2) More important, in order to exact from the professors' responses insights sensitive to their true feelings for or against TV, extremely discrete response categories had to be created. The resultant high incidence of different response categories yielded n's that were relatively small.

Consequently, in the following section, tests of significance which yielded levels of confidence even approaching .10 are reported, but of course should not be interpreted as indicating anything more than trends.

For the significant PARTC-ITV group of subjects, however, a careful person by person qualitative analysis of attitude change was also effected, using not only the Pretest and Posttest Interview data, but also personal reports from both the PARTC-ITV group and the Television Production Coordinator. These data are dealt with at the conclusion of this section and by any standards are the most significant aspects of this phase of the report.

The following discussion encompasses the tests of significance referred to above, and, as suggested, should not be interpreted by the reader as being anything more than an indication, in very broad terms, of the direction of attitude shifts for or against instructional television.

In the PARTC-ITV group, 5 items yielded differences between responses to the Pretest and the Posttest approaching statistical significance at the .10 level of confidence. Two such instances suggested shifts in a direction more favorable to ITV. These were as follows: "Extent of (accepting) replacement (by ITV) of classroom lectures" (greater willingness expressed); "Don't know, but against ITV" items appeared 3 times in the Pretest but did not appear at all in the Posttest).

Remarks expressing the thought that ITV would "limit the number of qualified instructors" appeared once on the Pretest and 5 times on the Posttest, indicating a shift of attitude in a less favorable direction. On the Anti-ITV side of the ledger, the number of miscellaneous reasons given against ITV increased from the Pretest to the Posttest. Also in this category were responses concerning the impression that ITV would "ease teaching load and give more time for research". The incidence of this response fell from 7 on the Pretest to 2 on the Posttest.

Only two items appeared in the HH-ITV group which approached significance at the .10 level of confidence. An item which shifted in the favorable direction here, as well as in the PARTC-ITV group, was "Extent of (accepting) replacement (by ITV) of classroom lectures". The other item (extremely difficult to interpret across the Pro-ITV and the Anti-ITV spectrum) concerned the relationship of television instruction to "size of class" (perceiving large classes as more suitable than small classes for ITV). It appeared 5 times on the Pretest as compared to 1 time on the Posttest.

Six Chi Squares computed for the HNH-ITV, involving Pretest and Posttest responses, were at least significant at the . 05 level of confidence. (The apparent attitude shifts here may be spurious, and this contention is qualified in an explanation presented in Table 9.)

Of the 6 significant Chi Squares, 5 were in the favorable direction. An interpretation of a "favorable" shift here in 4 cases was due to a reduced number of "against" responses on the Posttest.

The following results reflect the 5 Chi Squares which suggest an apparent attitude change more favorable to instructional television in the HNH-ITV group:

"ITV gives bad results" (Pretest-7, Posttest-0, at the . 01 level of confidence); "ITV impersonal and mass production" (Pretest-3, Posttest-0, at the . 01 level of confidence). Over-all ratings on favorable-unfavorable-neutral scale of responses to 4 different ITV items: Pretest 33-34-4, Posttest 31-24-13, at the . 05 level of confidence; "Favor ITV miscellaneous responses" (Pretest-19, Posttest-31, at the . 05 level of confidence).

The only unfavorable shift was on the item, "ITV does not motivate students" (Pretest-4, Posttest-11, at a . 05 level of confidence).

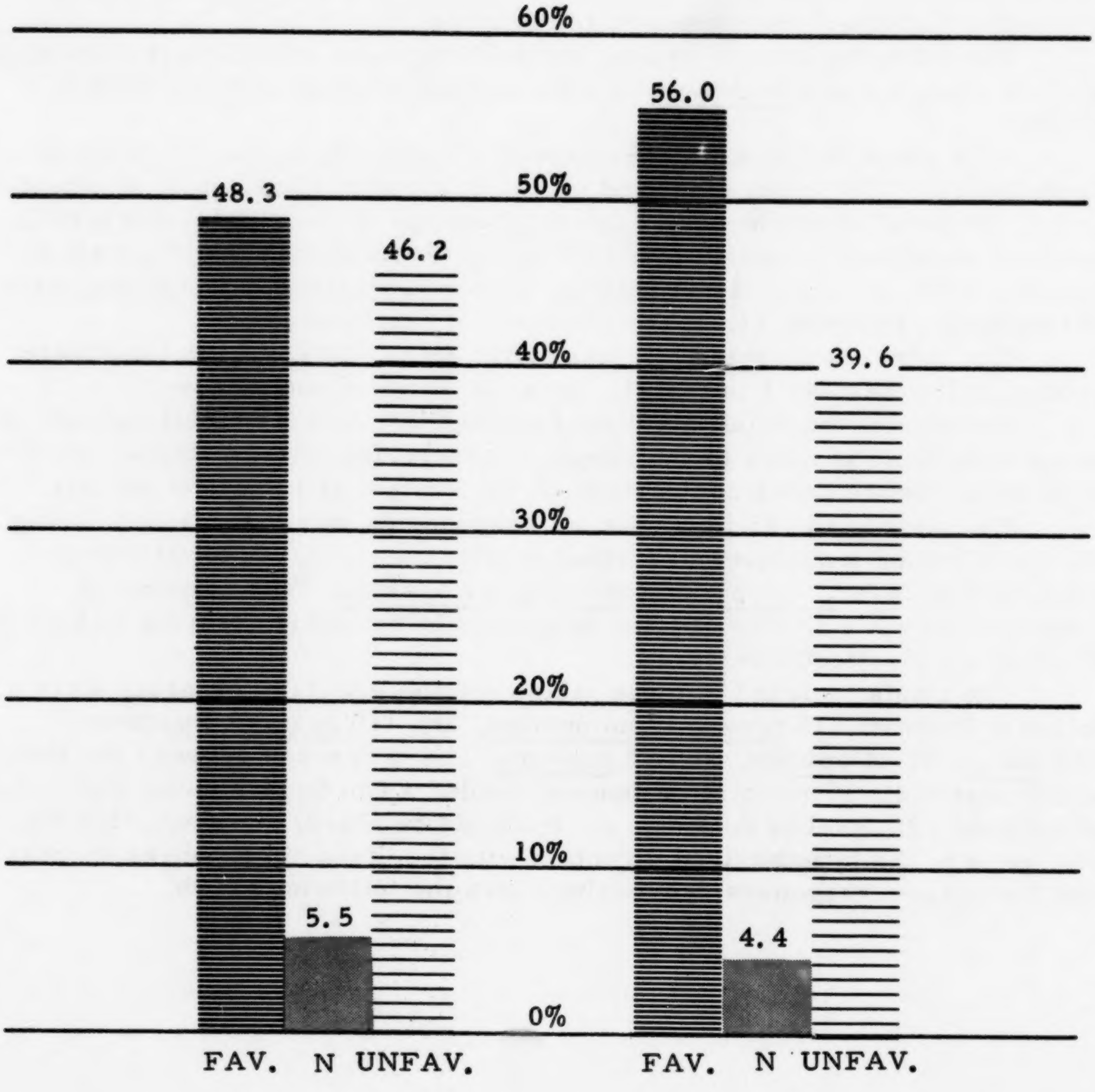
Because of the small n's discussed earlier, and the small number of responses found in many of the response categories, it was elected to effect a somewhat more gross comparison of the Pretest and Posttest results.

Each one of the 48 items for all respondents was categorized, using the same rating techniques described earlier, with regard to attitude toward ITV as favor, no opinion (neutral), or against. This allowed the formation of a 2 x 3 table of total responses to the same question on both the Pretest and Posttest Interviews.

The totals included in these tables for the PARTC-ITV group were as follows: Pretest: 115 favor, 13 no opinion, and 110 against; Posttest: 127 favor, 10 no opinion, and 90 against. The difference between the Pretest and Posttest distribution of responses yielded a Chi Square value significant at only the . 26 level of confidence. It should be noted, however, that the change is in the hypothesized direction with the "favor" responses increasing and the against responses decreasing. See the following graph:

TOTAL PARTC-ITV GROUP

(n = 20)

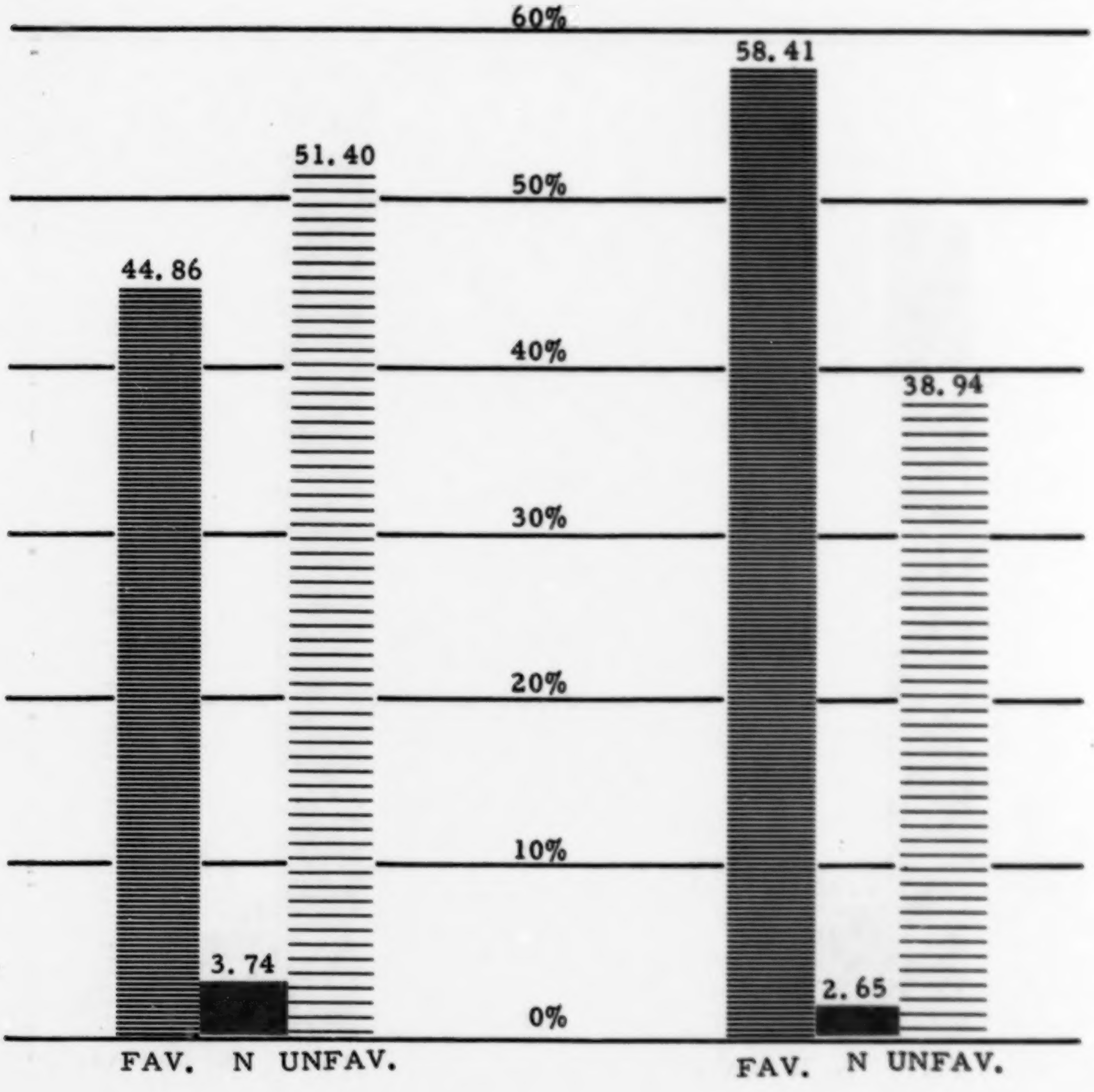


PRETEST
100% = 238 Responses

POSTTEST
100% = 227 Responses

PARTC-ITV's
DEPARTMENT "A"

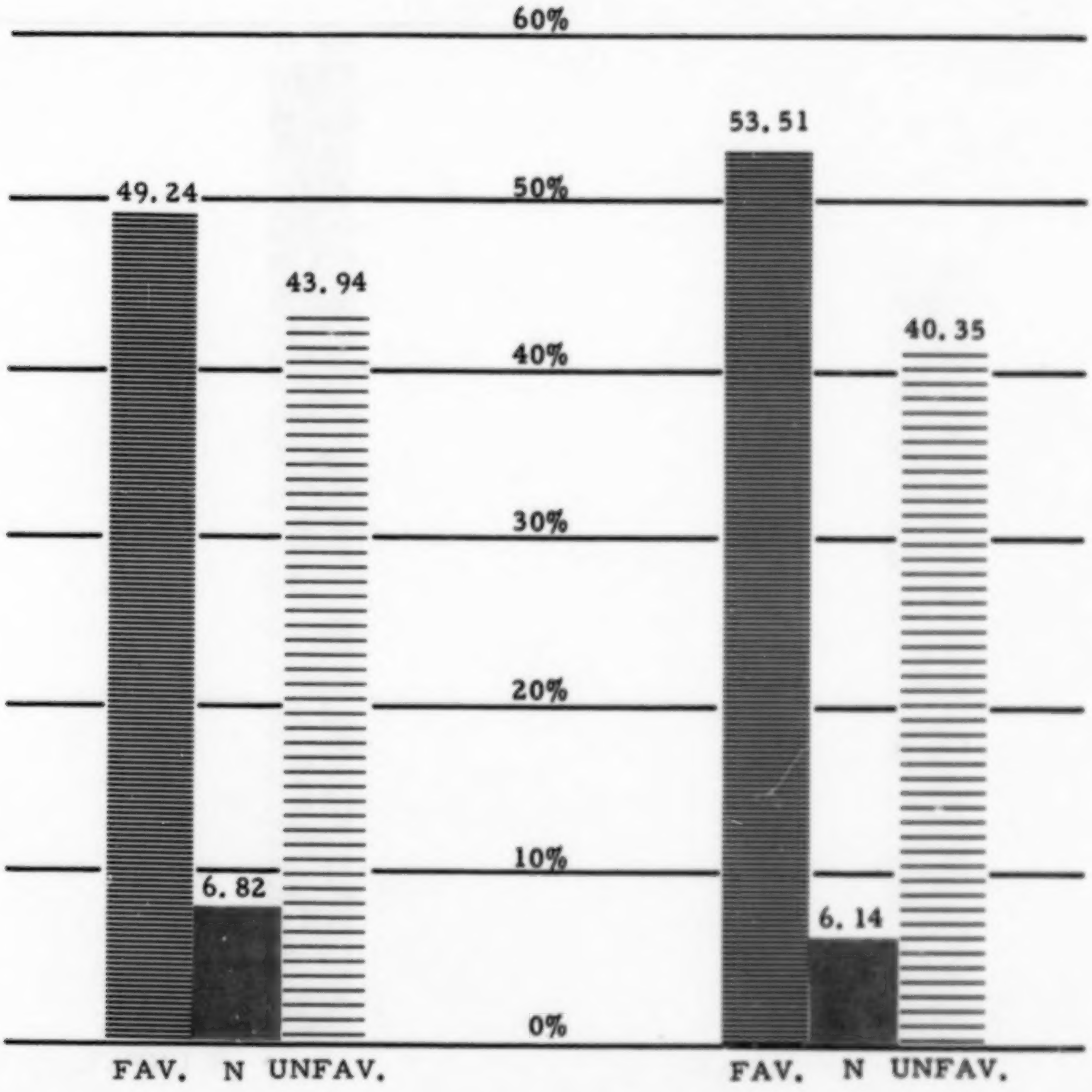
(n = 9)



PRETEST
100% = 107

POSTTEST
100% = 113

PARTC-ITV's
DEPARTMENT "B"
(n = 11)



PRETEST
100% = 132 Responses

POSTTEST
100% = 114 Responses

The over-all reduction in responses in the PARTC-ITV group from the Pretest to the Posttest was computed to be 5%. It was interesting to note which of the 48 specific Pretest and Posttest items were most represented in attitude shifts. In the PARTC-ITV group the mean number of responses per item for the 48 questions was 10. It was arbitrarily decided to examine all items which resulted in a response shift of 5 or more responses. In the PARTC-ITV group 12 such items appeared, 8 of which shifted in a favorable direction. A shift in the favorable direction was defined as a reduction of against responses, and/or increase of favorable responses. Four items shifted in an against direction. The 8 items showing a shift in the favorable direction in the PARTC-ITV group were as follows:

"Lack of personal contact", 14 responses shifted; "Extent of replacement of classroom instruction", 12 responses shifted. In the following 3 items, 6 responses shifted: "ITV instruction doesn't motivate students", Misscellaneous personal feelings against ITV instruction", and "Interaction left out". A shift of 5 responses occurred in the following 3 items: "Outstanding lecturers available", "More difficult to teach on ITV", and "Number of qualified ITV instructors is limited".

Responses to items which shifted in the against direction were as follows:

"Miscellaneous favor ITV responses", 10 responses shifted; "ITV useful as supplement", 6 responses shifted; and "ITV eases teacher's load", 5 responses shifted.

When the Experimental group was divided by departments, additional information was revealed. The Chi Squares computed on the total Pretest versus the total Posttest distribution of favorable, neutral, and against responses for the two departments were as follows: Dept. "A" 4.28 (p = 12) and Dept. "B" 0.44 (p = .95). The "B" Department decreased in responding from the Pretest to the Posttest on all 3 categories, while the "A" Department respondents increased in favorable responses and decreased in unfavorable responses. See Table 12 below:

Table 12

Chi Squares Computed Between Pretest and Posttest

Total Number of Responses to 48 Identical Items

Group Category	No. Subjects	Chi Square	p
Experimental	20	2.77	0.26
Department "A"	9	4.28	0.12
Department "B"	11	0.44	0.95
Have Heard	29	2.16	0.35
Have Not Heard			
Pretest	71	1.50	0.60 *
Posttest	68		

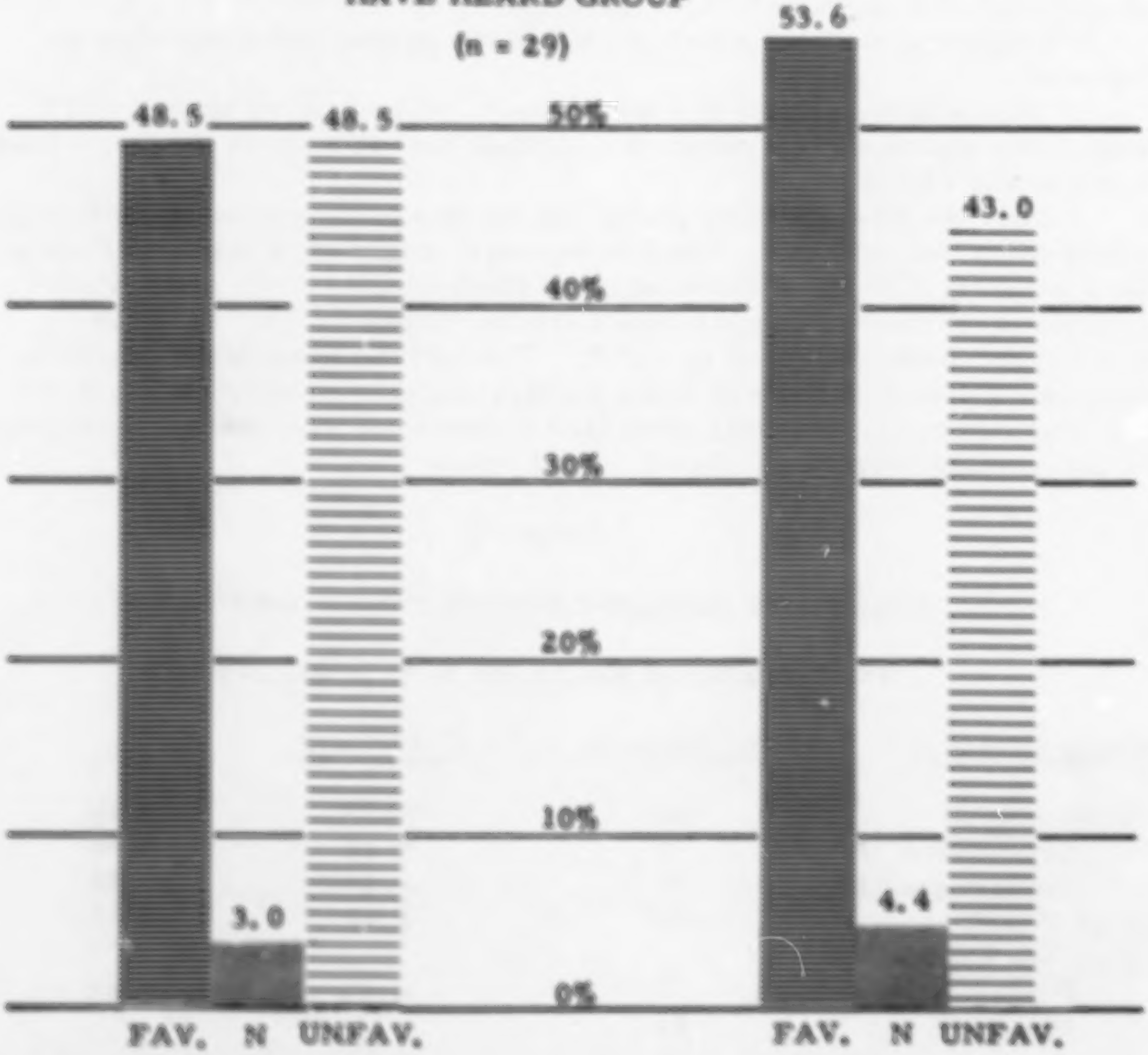
Note * - See next page

* It was discovered that neutral responses in this group accrued approximately equally from those favorable or against ITV in the Pretest. It is argued that to include these neutral responses would introduce a spurious indication of attitude shift with this kind of data and using a procedure such as Chi Square. With these neutral responses included, the Chi Square value would be 4.53, "p" value 0.11. For this reason, the Chi Square obtained with respect to Pretest and Posttest comparisons of individual response categories, discussed earlier, are probably likewise spurious.

The HH-ITV group yielded the following frequencies of response on the Pretest and Posttest:

Pretest: 173 - favor, 11 no opinion, and 173 against.
Posttest: 143 - favor, 12 no opinion, and 117 against.

HAVE HEARD GROUP
(n = 29)



PRETEST
100% = 357 Responses

POSTTEST
100% = 272 Responses

The over-all reduction in responses from the Pretest to the Posttest was 24%. A Chi Square was computed for the above information and was significant at the 0. 35 level of confidence.

The mean number of responses per item for the 48 items was 13. It was decided to examine any specific item which resulted in a shift of responses of 7 or more items in the same direction. Of the 5 items that evidenced such a shift, 3 were in the favorable direction. There were: "Imagine yourself against ITV - miscellaneous responses", from 20 responses on the Pretest to 5 on the Posttest; "Eases teacher's load", 2 responses on the Pretest and 9 on the Posttest; "Lack of personal contact", 27 times on the Pretest and 9 on the Posttest.

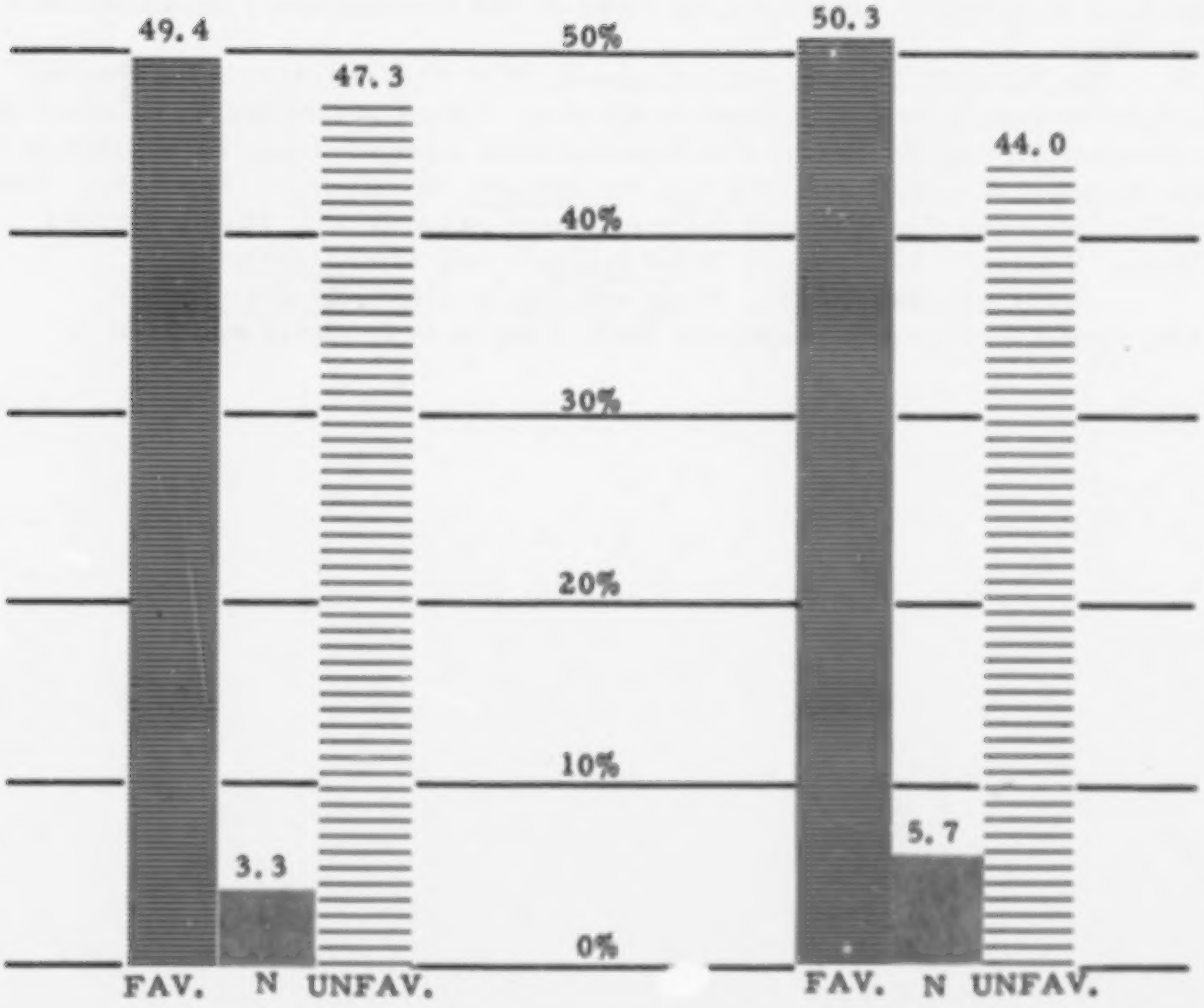
The 2 against items that shifted were: "ITV instruction reaches more students", 19 responses on the Pretest and 4 on the Posttest; and "ITV useful as a supplement" appeared 16 times on the Pretest and 5 times on the Posttest.

The HNH-ITV group was composed of 71 respondents on the Pretest Interview and 68 on the Posttest Interview. Three respondents could not be contacted for the Posttest. Chi Squares were computed for the Pretest versus the Posttest distributions of favor, no opinion, and against responses. The HNH-ITVs gave the following frequencies of responses to 48 comparison items: Pretest: 344 favor, 23 no opinion, and 330 against.
Posttest: 265 favor, 30 no opinion, and 232 against.
The over-all reduction responses from Pretest to Posttest was 24%.

HAVE NOT HEARD GROUP

(Pretest n = 71)

(Posttest n = 68)



PRETEST
100% = 697 Responses

POSTTEST
100% = 527 Responses

The mean number of responses per item for the HNH-ITV group was 25. It was decided that further analyses were to be effected in the case of items which showed a shift of 13 or more responses in the same direction from the Pretest to the Posttest. Two of the 4 items meeting this criterion were shifts in the favorable direction; Against ITV: "Lack of personal contact" (Pretest 57 responses and Posttest 14 responses) and "Imagine self against ITV"; give reasons - miscellaneous" (Pretest 34 and Posttest 12).

The 2 items which showed a shift in the against direction were: Favor ITV: "Reaches more students" (Pretest 43 responses and Posttest 11) and "TV useful as a supplement" (Pretest 27 and Posttest 6 responses).

As indicated earlier in this section, the small size of the n's in the experimental group and the implicit nature of the Chi Square test of significance, clearly suggests that the mere lack of statistical significance between the Pretest and Posttest responses (admittedly in the predicted direction) does not preclude the possibility of critical shifts in attitudes. In the "natural behavioral setting" research technique which was incorporated into out investigation, an empirical analysis of the results would appear to be a critical part of the procedure. Consequently, such an analysis was carefully undertaken.[1]

First of all, the Posttest Interview results were compared to the reports of both the Television Production Coordinator and the experimental group. (A detailed account of the content analysis of these data is presented in the APPENDIX). Comparisons of responses, when collapsed to over-all 3-point scales concerning the nature of attitudes toward ITV, i.e., favorable, unfavorable, and neutral, indicated that the Production Coordinator's report and the individual participant's report correlated to a surprising degree with the Posttest Interview responses.

A subject-to-subject comparison of Pretest and Posttest attitudes toward ITV on the 3-point scale was then effected. The following table reflects the results of this analysis.

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1. We are indebted to the late Carl Hovland for suggesting this type of analysis. Dr. Hovland's death was a great shock to all concerned with the project. His discussions with the senior author in the beginning stages of the investigation were of great value.

Table 13

Frequency, Direction, and Nature of Attitude Shifts of Professors Involved in VTR Phase of Investigation

Direction	Departments & Frequencies		Total Frequencies
	"A"	"B"	
Favorable			
Unfavorable to favorable	1	1	2
Neutral to favorable	3	1	4
Unfavorable to neutral	1	2	3
Total	5	4	9
Unfavorable			
Favorable to Unfavorable	0	0	0
Neutral to Unfavorable	0	2	2
Favorable to Neutral	0	0	0
Total	0	2	2
Unchanged			
Favor	2	2	4
Neutral	0	1	1
Unfavorable	2	2	4
Total	4	5	9

It can be observed from the preceding table that although the attitudes of a total of 9 professors were *apparently* unaffected by the experimental situation, a total of 9 actually shifted to an attitude more favorable toward ITV than had been reflected in the Pretest, while 2 shifted in a more *unfavorable* direction.

It is interesting to note that of the *unchanged* group, 4 were originally *favorable* to ITV, 4 were *unfavorable*, and 1 was *neutral.*

These data reflect patterns surprisingly consistent with current theoretical formulations concerning attitude change, including conceptions (Festinger and Carlsmith, 1959) involving the effects of a "forced compliance" situation. It could be hypothesized that, to some extreme or "dogmatic" attitudinal groups, "dissonance" may be introduced into existing cognitive structures with the least effect on the basic nature of this structure. In the present investigation this was reflected by either "no change" in attitude, or a shift to a neutral feeling. But only in 2 instances in the entire sample do we observe an extreme shift from an *against* position to a *favorable* one.

It could also be hypothesized that if in a situation similar to the condition in our experiment proves to be "consonant" to subjects who already favor ITV, this attitude would shift in an even *more* favorable direction. Although this was not recorded by our relatively crude 3-point scale, impressionistic evidence indicated that in 2 instances involving the apparently "unchanged" group, a shift to an even more favorable attitude did occur.

As would also be theoretically expected, the "neutral" group should have recorded the greatest instance of attitude change. Six of the 9 subjects who reflected an attitude shift were, indeed, scaled as neutral on the Pretest Interview responses. Of course, in the neutral group, 2 subjects shifted in an *unfavorable* direction as well. In a way, this should not be regarded as an unexpected reaction when one considers the potentially *ego-threatening* as well as *ego-involving* atmosphere produced when, for the first time, a professor must contemplate the portent of his own image projected from a television tape. In fact, it is surprising that this potentially negative effort of the experimental procedure occurred in only 2 instances.

Perhaps the most significant results of the present investigation, in behavior rather than cognitive terms, is the fact that (1) of the two departments involved, one subsequently began offering a telecourse, a move which the department had previously rejected, and (2) the other department spontaneously began using some of their own video-taped material as a supplement to traditional teaching efforts.

The writers of the present report are acutely aware of the fact that along with the complex of other internal institutional effects on these departments, it would be overstating the situation to assume that in this instance "correlation necessarily meant causation" particularly since the data from our control group, in the strictest sense, was inconclusive. However, informal discussions with members of these two departments suggests that, all things considered, the experimental situation played an important role in departmental decision-making with respect to the use of ITV.

FINAL DISCUSSION & CONCLUSIONS

The images cast from the present investigation seem to be divergent but concise, and, in many cases, surprisingly supportive of postulates from contemporary social psychological theory.

Although the faculty as a whole manifested a positive, confident, self-evaluation of their roles as teachers, the spectre of instructional television loomed as a dark and complex threat to this confidence, and the threat was not superficial. But regardless of the professor's values and attitudes concerning ITV, his over-all sensibility extended an emphatic reassurance for the student, (the raison d'etre, after all, for professors and universities) who evidently is exposed to an invigorating climate of professional values. In weighing the responses from both extreme groups, Pro-ITV and Anti-ITV, in spite of considerable emotionality, there was often a constructive appraisal of both the weaknesses and virtues of instructional television. As THE YEARBOOK OF EDUCATION points out: "If television means no more than the appearance of master teachers before a passive audience, it will hardly revolutionize the lecture method of instruction. A means of immediate and continuous feedback or two-way participation has yet to be evolved" (1960, pp. 14).

However, in the present investigation this constructive objectivity frequently moved toward the emotional as the probe went deeper. Many professors regarded ITV as a deceptive, automated contrivance, the machinations of which had been designed soley for the purpose of usurping their jobs. These suspicious professors showed an unshakable emotional investment in traditional instructional media; this anxiety toward ITV as a possible basis for technological unemployment or downgrading will utimately become more pronounced as the medium expands, which seems almost certain.

One can well imagine the incredulous, ego-threatened Anti-ITV professor's reaction to the following hypothetical situation: "How would you feel if a student told you that he understood more of a physics unit from a single telecast than from three weeks of intensive study with you in the best organized sequence you were able to devise?" (Skornia, 1960, pp. 159).

Concurrent to the ITV menace, doubts were also awakened in the faculty as to the degree of their own academic adequacy and effectiveness. This aspect of our present investigation is tantamount to a paragraph from a recent review which illustrates the extremely important symptom of merit and self-evaluation: "The substance of these reports strongly indicates the need for further scrutiny by learning theorists and social psychologists, who are too often disinterested in education, not only in television as an educational medium but also in educational philosophy and teaching methods in general. In fact, in the opinion of this reviewer, one of the most important impacts of the ITV movement is that it has, "perhaps defensively, required a re-examination of teaching behavior in general and a re-evaluation of its effectiveness" (Evans, 1960, pp. 236).

In many cases this defensive attitude of the Anti-ITV professor was manifested on a hypercritical level; instructional television was conceived as a kind of electronic humbug, and any knowledge beamed through its tubes was obviously watered down - a thin, puerile substitute for the traditional classroom lecture of quality and spontaniety. A statement by Tanner (1960) in a recent address to the American Association for the Advancement of Science effectively evaluates this Olympian judgement:

> "One of the most serious pitfalls in the research is that we are not attempting to identify those unique learning increments which derive from television on the one hand, and those which derive from direct classroom teaching on the other hand. Instead we are attempting to compare two approaches that are not truly comparable. The fact that the overwhelming majority of studies result in no significant differences in learning achievement between television and conventional groups is not, in itself, evidence that television is equal to conventional modes of instruction. It may simply mean that our instruments for measuring learning outcomes are incapable of identifying the less tangible dimensions of learning - dimensions which go beyond information gain and skill development."

As almost a prerequisite to the conclusions and implications of the present study that follow, the reader's attention should be directed to certain limitations of methods and results perceived by the investigators.

Although one of the unique characteristics of the investigation was its "natural behavioral setting", research was somewhat confined by this very fact because of problems inherent in the situation involving a relatively small number of subjects. Therefore the statistical tests used in the investigation, particularly the Chi Square comparisons of the Pretest and Posttest responses, must be regarded as inconclusive. Naturally, the more desirable solution would have been the use of a sufficient number of subjects in order that the results of the highly significant qualitative comparisons of the Pretest and Posttest responses could have been supported with more substantial statistical findings.

Another limitation alluded to previously should be emphasized - the fact that the Pro-ITV and Anti-ITV groups should not be regarded as more than antipodal prototypes. To have extracted more than just an impressionistic substance from these extreme groups, a careful comparative study of the middle group - professors neither strongly in favor nor strongly against ITV - should have been effected. This would have required more cooperation within the institution than could have been reasonably expected in order to effect the large additional number of depth interviews with the more than 200 professors comprising the "middle" group.

On the other hand, considering the demands that were made during the more than two years spanned by the investigation, e.g., completion of lengthy questionnaires by virtually the entire faculty, participation in face-to-face depth interviews, production of exacting professional videotapes, the authors were frankly delighted at the very high, and indeed surprising, degree of faculty cooperation - especially since the demands embraced situations both time-consuming and ego-threatening.

At any rate, it is hoped that the present investigation will reflect not only some of the more intangible implications projected from its ITV focal point but will enlarge upon two broader areas of knowledge: First, by using an investigation of attitudes toward ITV as a device, we evoked provocative insights into the general attitudes and values of a university faculty as a whole. Second, the investigation permitted an unusual opportunity to test certain hypotheses present in contemporary social psychological theories of attitude structure and change.

For example, investigators were able to examine the following:

A. Some implications of factor analysis as a device for revealing frames of references fundamental to the development of an attitude.

B. The manner in which observations of a "natural behavioral setting", directed toward attitude change, is supportive of general theoretical formulations concerning attitude change in the social psychological literature.

These ends, effected from the results of the present investigation, were supportive of theoretical formulations such as those of Rokeach (1960) and Festinger (1957) - often in dramatic fashion.

Now to review the results of the present investigation in detail and isolate the most relevant conclusions.

(1) The professors' manifestation of attitudes toward ITV found in the present investigation appeared to agree with the findings of four previous studies, thus suggesting a surprising universality of feelings involving ITV in university instruction.

These responses seem to range from not only those clearly favorable and unfavorable to ITV instruction, but also define the ultra extreme groups who expect from the medium either educational salvation or intellectual damnation.

The Pro-ITV professors see such intrinsic values as the potential expedience of the medium; they see the enormous, latent possibilities of projecting our more qualified and outstanding teachers to a greater volume our neglected youth; they see instructional television as a dynamic means of overcoming some of the grave problems that must be faced because of the steadily increasing university enrollments throughout the United States.

However, the attitudes of the opposition group toward ITV, representing a majority of professors in the present as well as in previous studies cited, exposed a curious kind of double-layered reaction: one relatively objective, the other relatively subjective and emotional.

The relatively objective responses seemed to reveal, among other things, the grievance that instructional television tends to eliminate contact between students and professors; ITV is a "diluted" means of instruction; excessive time demands will result from having to plan and develop telecourses. Another, and not necessarily remote possibility, was reflected in the reaction that ITV might create a "star" system, leading to a professional rivalry between the ITV and non-ITV faculty. (We imagine that to the outside observer this possibility has some amusing implications.)

To the Anti-ITV professor, ITV also offers what appears to be a feasible threat to job security; it has an undesirable effect on learning; and it limits teaching techniques.

However superficially rational these Anti-ITV concepts appear to be, the over-all pattern of what we have termed "objective" responses seems to suggest, nevertheless, the existence of a very keen personal threat to the professor. This personal threat, not easily ignored, is evidently seated more deeply in the traditional social structure of the university than would be imagined, and possibly includes the professor's individual epistemological concepts.

This is further reflected in what we have referred to as a second, relatively subjective and emotional level of responses to ITV. An example of such a response occurs when the Anti-ITV professor displays the apprehension that his skills and techniques as a teacher might be exposed to the criticism of his colleagues when the traditional privacy of his own classroom is invaded by the television camera.

(2) As far as teaching techniques are concerned, it seems clear that there is a general, reasonably high area of agreement between instructors and students in relation to the somewhat more traditional methods. Although "Classroom lectures" and "Use of blackboards" were favored more highly by the professors, there was a general agreement between professors and students in rating "supplementary viewing of television" and "television lectures" considerably lower in the entire evaluative hierarchy. The cold facts indicate that not only traditional teaching methods but even other visual aids such as motion pictures were rated higher than ITV.

Concerning teaching evaluation criteria, the investigation showed some sharp disagreement, although both instructor and student rate objective tests as the most favored technique. While professors rate highly such criteria as "promptness in completing assignments" and "showing improvement", students would like to see evaluations criteria such as "attendance" and "term paper" assume greater pre-eminence.

(3) It seems that on the whole professors tend to rate their own ability well above the mean, not only as instructors in the traditional manner, but also when projected into a hypothetical television teaching situation. Students' evaluation of professors is evidently, on the whole, less favorable. They viewed the professors as falling into a more relatively normal distribution of ability.

(4) The investigation found that in terms of those questions dealing with content versus method in teaching, the professors seem to find content more important in almost every respect.

(5) As an indication of the value systems of professors, the majority of our respondents would oppose hiring Charles Van Doren, principally on ethical grounds.

(6) During the actual participation phase of the investigation, much was revealed to a perceptive observer (the Television Production Coordinator) concerning the professor's deeply rooted attitudes toward teaching by ITV. Some of the anxieties reflected in written statements concerning ITV were, in effect, "acted out" during the taping session.

(7) The over-all picture of the degree of "authoritarianism" of the faculty was extremely interesting. Authoritarianism was quite in evidence among the faculty. This fact led the investigators to conclude that professors, with respect to the equalitarian-authoritarian dimension, may be no different from many other professional groups or, for that matter, any other social groupings in general.

(8) The factor analytic results of the present study seems to reveal two things most dramatically: First that teaching by television, with respect to attitudes held by some professors, seems to merge into an already existing cognitive structure centered around a broader philosophy of education. To some professors, on the other hand, teaching by television tends to become an isolated attitudinal focal point. Incidentally, it might be pointed out that although the three Osgood factors often converged in the expected direction, exceptions were noted frequently enough to voice again the "purity" of particularly the Activity dimension.

(9) The difference between professors favorable and unfavorable to ITV seems to be well-defined. Initially, the Anti-ITV professor often seems to exist in a university department where there is likely to be a majority of his associates opposed to ITV, perhaps thus allowing him to obtain social support for his convictions. To the contrary, the Pro-ITV professor frequently seems to be more or less isolated and is rarely located in a department where others share his view. Thus, the Pro-ITV professor must be willing to stand as an individual, since support from his departmental colleagues is seldom in evidence.

Other differences seem to suggest greater amounts of teaching experience on the part of our somewhat peripatetic, Pro-ITV professor along with a greater degree of sophistication and a greater concern with research. There seems to be, on his part, a greater tolerance for change and a less "ivory tower" approach to education. He is somewhat more tolerant of an ethical breach by a colleague, as indicated from his more affirmative responses to the Charles Van Doren issue. In fact, the Pro-ITV professor seems to be willing to accept a much greater variety of methods of both teaching and evaluation, even in the traditional sense, than his Anti-ITV counterpart. On the other hand, the Anti-ITV professor seems to be, at least superficially, more concerned with quality in instruction.

The Anti-ITV professor seems to carry a heavier teaching load than the Pro-ITV professor and may be at the lower end of the academic pay scale. Thus possibly being less secure than his Pro-ITV associate, one might expect him, therefore, to feel more threatened by innovations that could conceivably disrupt the university economy.

(10) The qualitative and behavioral results, at least of our "forced compliance" ITV-participation experiment, revealed that attitudes did shift in a direction more favorable to the medium. Therefore, hypotheses generated by cognitive theories of attitude change such as Festinger's (1957) seem to have been substantially upheld.

All in all, the present investigation yielded an extremely provocative and, in certain aspects unparalleled, array of findings. Our research revealed some very interesting things about the quality and range of professorial feelings toward ITV; it showed very clearly that there are some rather sharp cognitive and behavioral differences separating those professors who are favorable and unfavorable to ITV; it indicated that an attitude toward ITV is something couched in an already significant area of the professor's philosophy of education, whereas, at other times it seems to be completely isolated; it showed that if, in a "forced compliance" situation within the university climate, unfavorable or neutral attitudes toward ITV are exposed to quantities of "dissonance", such attitudes may shift in a more favorable direction.

We trust that the reader will not regard the present report as a propaganda "blueprint" for forcing reluctant professors into an acceptance of ITV. Significantly, our results do not rule out but even *suggest* the possibility that in pockets of *extreme* resistance, "forced compliance" could have deleterious effects.

In a broader sense, we would further postulate that in order to influence hostile ITV attitudes in specifically hostile university departments, careful attention must first be given to the *utility and profitable function* of the medium. After that, care must be taken that no vertical pressure is exerted. ITV programs must simply follow function, utility, plan, and course. The faculty must see that ITV is an extension of their talents and not an amputation. We feel that vital implications of the present study were anticipated by the following statement (Bereday & Lauwerys, 1960, Pg. 13):

> "It is clear that in this area there is ample room for both clearsighted analysis and far-reaching empirical research. Educators should be prepared in all cases to formulate the aims of teaching which they envisage and then to consider what channels of communication they see best suited to the attainment of their objectives, remembering that simplicity and directness are preferable to and more effective than complexity and involution...
>
> "Sound radio has not been made obsolete by television, nor the filmstrip by color sound movies. Nor has the teacher in the classroom been made redundant by the studio, the printing shop, or the electronic factory...
>
> "The revolution in teaching techniques may not be as rapid as the changes in the elegant glass buildings that house television stations and business offices - but it is sure to come, none the less."

As the stigma of "wasteland" commerical television is eroded by more constructive programming, professors' negative stereotypes of the medium may be increasingly challenged. If assurances from university administrations can effectively reduce the "personal threat" dimension, a bright future for at least the selective use of ITV can be predicted.

Simply from this increased participation, the vision will develop that is necessary to create truly unique ITV techniques as yet undevised and a truly sound contribution to the entire process of education will have been effected.

SUMMARY

The present report deals with an exploration of further social psychological dimensions of the university faculty previously reflected in such publications as *The Academic Mind* and *The Academic Marketplace*. The present investigation was directed toward exploring attitudes and values of professors and conditions which may precipitate their modification. Faculty resistance to the use of educational television was selected a a focal point. One aspect of the present investigation became a field demonstration of the dynamics of attitude change as described by Hovland, Festinger, Sherif, and others, using faculty attitudes toward teaching by television as a target.

A psychological instrument, which included an adaptation of the Osgood Semantic Differential plus a series of "teaching behavior" items was administered to the faculty of a large Southwestern, urban university. Attitudes toward an array of concepts including respondents' attitudes toward the use of television as a function of their own philosophy of education, personality organization, and general background were measured on evaluative, potency, and activity dimensions. Completed instruments were obtained from 319 instructors or nearly 80% of the entire full-time faculty. Two extreme groups (favorable and unfavorable toward instructional television) of approximately 60 faculty members each were established on the basis of their responses to the teaching by television items included in the instrument. These groups were requested to participate in follow-up depth interviews. Virtually all agreed. Comparisons between professors favorable and unfavorable in their attitudes toward television instruction were made on the basis of the variables measured in the present study in order to explore the correlates of this attitude.

A factor analysis of some 300 responses to the Osgood items was also effected.

Among the findings from the Osgood data is an indication of the self-image of the professor. Eighty-five per cent of those responding tended to regard themselves as "good" teachers. They further regarded themselves as rough, honest, active, fair, strong, fast, pleasant, hard, and valuable. The responses from a student sample, as would be expected, indicated that professors are perceived by students in a clearly less favorable light than professors perceive themselves.

One question in the interviews, employing a quasi-role playing projective technique, concerns the possibility of hiring Charles Van Doren (English professor involved in the television quiz "scandals") as a university instructor. A majority, acting hypothetically as a university president, would not have hired Van Doren, with the principal response category indicating that they considered his television performance and subsequent testimony "immoral" and at odds with the general ethical code of a professor. Those favoring hiring Van Doren felt, as revealed in the principal response category, that a professor should not be responsible to a university for activity off the campus which did not affect his teaching ability. They also felt that fallibility must be accepted - even in professors.

Responses to depth interviews using projective questions selected from those formulated by the California Group indicated that our subjects tended to be, on the whole, as least as authoritarian as other professional, social, or business groups in our culture. In addition, the results suggest that many professors have developed a facade of overt responses which tend to conceal authoritarianism.

Two large university departments which had been unwilling to become involved in television instruction were selected to participate in an ostensibly intensive improvement of teaching program which included an evaluation of the video tape recorder for self-improvement of teaching based on actually taping individual course presentations with the assistance of the university's television production staff.

By virtue of a group of control conditions, this group provided the nucleus for the observation of potential attitude change in an "ego-involving", "forced compliance" situation, as theoretically outlined by Festinger. The results from this portion of the investigation also provided an opportunity to explore the self-improvement of teaching possibilities inherent in the video tape recorder, as evaluated by two university departments.

An analysis of responses to the pre- and post-experiment interviews, the Osgood instrument, the TV production coordinator's report (a daily log of participant's television production performance), and personal reports prepared by the subjects, revealed dramatic modifications of their attitudes toward ITV in a generally more favorable direction. One of the two departments, in fact, elected to change their previous decision and present a telecourse, while the other began to use its taped efforts as a standard portion of regular courses. (Of course in the context of a life situation, in spite of controls, other factors in the social climate of the university connot be absolutely ruled out as contributing to these changes.)

Incidental to these findings, the interview and personal report data also indicated considerable support for the idea of using the video-tape recorder as a self-improvement of teaching device.

Many statistically significant differences were present between the pro- and anti-ITV groups. To give some examples: pro-ITV professors tended to be less "ivory-tower", more variable in both teaching and evaluation techniques they used, were more interested in research, and had more teaching experience. They tended to also be more tolerant of psychological interviews, night students, and student activities. They also were less preoccupied with economic rewards in teaching. A less puritanical view of ethics was also significantly more evident in the group favorable to the idea of teaching by television. Pro-ITV professors were less likely to have colleagues who share their view. They thus do not receive the social support of their colleagues which is received by anti-ITV professors, the majority of whose colleagues often share their views.

The Factor Analytic results were also provocative. They indicated that attitudes toward television were sometimes imbedded in "pure ITV" factors. That is, some groups of respondents apparently had developed specific and isolated frames of references dealing *only* with television instruction (e.g., good-bad, active-passive, or weak-strong). Still others seem to synthesize their feelings concerning television into already existing cognitive structures, some dealing with such things as a generalized "concrete-realism" in their approach to teaching *in general.* Still others, dealt with an "over-all philosophy of education "factor" such as concern more with "content" than with "method", and so on.

Although the three Osgood factors often converged in the expected directions, exceptions were frequently enough noted to voice again the question of the "purity" of particularly the Activity dimension.

In conclusion, the present investigation yielded a rich assortment of data concerning the university faculty. Findings included: (1) evidence of an over-rating of its own teaching skill and harsh judgment of members of the profession who err; (2) a "forced-compliance" situation if coupled with a resultant "ego-involvement", appears to modify feelings concerning teaching by television in a generally more favorable direction; (3) marked differences in personality, philosophy of education, and behavior, characterize the professors "favorable to" and "unfavorable to" teaching by television, including a less "ivory-tower", more experimental and flexible approach to the business of teaching; (4) attitudes toward television instruction ranged from being imbedded in "pure ITV" factors to being only a secondary loading in factors representing a variety of frames of references toward the total university teaching situation; (5) the videotape recorder emerged as a promising technique for the self-improvement of faculty instruction.

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APPENDIX

Table 1

Sample - Initial Questionnaire

(Includes Final Frequency Count)

In order to respect the anonymity of the university and individual departments involved in the present investigation, any specific reference in the following tables to either will be deleted. The deletion will be noted with the following mark ☆

FINAL FREQUENCY COUNT

APPROVED FOR DISTRIBUTION
☆
Dean of Faculties

To: ______________________________

You are being asked to complete the following test, which is one part of a research project supported by a government grant. For our results to have maximal validity and significance, it is extremely important that each person asked to participate cooperate with us by completing and returning the test. All individual answers and personal information will be kept in strict confidence, in accordance with the ethics of such research. Your name will not be revealed, nor will your answers be individually identified in the interpretation and reporting of results. For purposes of statistical comparison, however, we do need the personal information requested on pages 33 through 35. Answers to some of the questions on these pages have already been written in. Please be sure your rank and other information already filled in are correct.

Completion of this test will require approximately 30 minutes. Please take the test in sequence—do not look ahead, and do not turn back. Your cooperation in this matter is very important, since your taking the test in the indicated order is an important factor in the research design, and your failure to do this would affect the validity of your responses.

A return envelope, already addressed and marked "Personal," is enclosed. When you have completed the test, please place it in this envelope, seal the envelope, and return it to us via interoffice mail.

Please return the completed test to us by Friday, December 11, 1959.

Only your honest feelings about these issues are sought. There is really no way you are supposed to feel about these issues. It is expected that opinions of individual faculty members will differ widely.

We would be interested in having any comments you might wish to make about this test. You will find a page for comments at the end of the test.

Please do not merely toss this booklet aside, since only through your cooperation will the report of this study, which will be circulated nationally, be truly representative of our faculty.

Thank you.

n = 319

Frontier Fiesta

									No Response
good	36	65	68	51	31	31	22	bad	16
rough	17	43	57	133	28	19	2	smooth	20
honest	36	57	40	128	21	13	4	dishonest	20
passive	8	10	18	99	30	81	52	active	21
fair	18	49	39	140	26	19	7	unfair	21
weak	16	34	34	105	53	46	10	strong	21
fast	14	55	46	158	11	12	2	slow	21
unpleasant	13	19	22	59	58	97	30	pleasant	21
hard	19	26	36	200	8	5	4	soft	21
worthless	25	24	36	41	78	71	28	valuable	16

1.6-1.15

n = 319

Night Students

									No Response
good	117	84	50	41	9	7	2	bad	9
rough	8	19	43	170	18	28	15	smooth	18
honest	70	100	30	93	8	3	0	dishonest	15
passive	2	11	26	80	48	89	47	active	16
fair	67	64	37	123	9	2	0	unfair	17
weak	5	12	34	82	44	92	36	strong	14
fast	13	31	57	138	43	16	5	slow	16
unpleasant	6	9	14	81	38	92	63	pleasant	16
hard	22	32	24	209	10	3	2	soft	17
worthless	1	0	5	47	28	88	136	valuable	14

1.16-1.25

n = 319

Athletic Scholarships

									No Response
good	24	60	80	33	24	36	49	bad	33
rough	15	13	37	197	22	7	7	smooth	21
honest	18	30	48	78	49	36	40	dishonest	20
passive	10	5	12	160	41	47	22	active	22
fair	20	46	56	66	38	30	43	unfair	20
weak	20	29	30	148	37	27	7	strong	21
fast	10	12	26	218	7	16	9	slow	21
unpleasant	26	21	35	136	48	25	8	pleasant	20
hard	13	17	31	205	13	6	12	soft	22
worthless	35	27	27	46	83	59	24	valuable	18

1.26-1.35

n = 318

Additional Tuition Increase

									No Response
good	10	22	33	30	36	55	121	bad	11
rough	59	48	30	156	5	2	0	smooth	18
honest	73	48	20	138	12	5	4	dishonest	18
passive	6	1	7	181	31	41	33	active	18
fair	46	49	32	64	29	37	43	unfair	18
weak	17	17	16	189	11	30	20	strong	18
fast	13	15	14	229	12	6	10	slow	19
unpleasant	99	80	47	62	10	1	2	pleasant	17
hard	47	51	28	172	1	0	1	soft	18
worthless	17	11	34	103	54	53	29	valuable	17

1.36-1.45

n = 319

Higher Entrance Requirements for University of ______ ☆

									No Response
good	154	61	42	20	12	8	7	bad	15
rough	29	26	32	169	10	20	11	smooth	22
honest	104	51	23	110	5	4	0	dishonest	22
passive	1	1	6	138	31	51	69	active	22
fair	121	72	32	46	15	8	4	unfair	21
weak	3	4	6	109	28	53	94	strong	22
fast	25	23	16	216	5	9	2	slow	23
unpl nt	11	24	31	112	26	44	49	pleasant	22
hard	34	52	39	166	3	1	1	soft	23
worthless	5	7	6	34	30	72	144	valuable	21

1.46-1.55

n = 319

More Fringe Benefits, with Smaller Salary Increases

									No Response
good	12	22	41	56	43	60	72	bad	13
rough	31	15	29	195	15	11	2	smooth	21
honest	25	26	26	176	16	15	14	dishonest	21
passive	13	7	22	183	23	27	23	active	21
fair	28	26	39	108	34	37	28	unfair	19
weak	21	24	36	168	23	16	10	strong	21
fast	3	9	11	237	19	9	10	slow	21
unpleasant	32	31	53	102	38	21	21	pleasant	21
hard	13	12	30	220	11	7	5	soft	21
worthless	24	22	42	99	61	35	17	valuable	19

1.56-1.65

n = 319

Larger Salary Increases, with Fewer Additional Fringe Benefits

									No Response
good	122	66	44	42	22	8	4	bad	11
rough	6	9	9	204	21	17	33	smooth	20
honest	7	41	24	149	5	2	1	dishonest	20
passive	2	6	5	166	34	40	46	active	20
fair	102	61	42	86	8	3	0	unfair	17
weak	3	5	5	154	30	43	59	strong	20
fast	26	17	21	219	5	8	3	slow	20
unpleasant	4	3	8	78	45	66	95	pleasant	20
hard	14	7	10	240	12	6	9	soft	21
worthless	2	2	11	55	45	88	99	valuable	17

1.66-1.75

n = 318

☆

University of ______ Becoming a State University

									No Response
good	114	87	47	31	5	6	12	bad	14
rough	19	18	28	163	14	19	34	smooth	23
honest	94	43	35	117	2	3	3	dishonest	21
passive	6	7	6	131	28	55	65	active	20
fair	111	69	36	74	3	2	4	unfair	19
weak	5	8	14	120	25	55	70	strong	21
fast	43	28	24	183	8	6	5	slow	21
unpleasant	9	15	17	88	36	66	67	pleasant	20
hard	17	16	17	226	10	5	6	soft	21
worthless	3	4	3	45	36	103	105	valuable	19

1.76-1.80
2.6-2.10

n = 319

Admitting Qualified Negroes to University of ______ ✫

									No Response
good	79	59	48	61	17	6	32	bad	17
rough	50	39	32	151	11	5	10	smooth	21
honest	104	49	36	100	2	2	5	dishonest	21
passive	6	1	9	149	37	36	60	active	21
fair	121	61	39	62	6	3	7	unfair	20
weak	10	4	11	149	30	31	62	strong	22
fast	21	16	14	207	12	13	14	slow	22
unpleasant	42	22	54	97	33	29	22	pleasant	20
hard	37	21	28	205	3	3	1	soft	21
worthless	16	5	11	90	50	61	66	valuable	20

2.11-2.20

n = 319

Emphasis on Research at University of ________ ☆

									No Response
good	118	87	43	19	15	15	6	bad	16
rough	17	28	21	180	15	17	19	smooth	22
honest	74	53	31	122	7	8	3	dishonest	21
passive	6	6	9	107	40	58	73	active	20
fair	77	64	54	78	8	12	5	unfair	21
weak	9	10	12	94	38	61	74	strong	21
fast	30	27	31	184	10	10	6	slow	21
unpleasant	5	6	12	92	50	74	58	pleasant	22
hard	28	22	31	207	2	2	5	soft	22
worthless	2	5	8	32	35	89	129	valuable	19

2.21-2.30

n = 319

Training in Teaching Methods for Professors

									No Response
good	81	61	55	48	14	16	25	bad	19
rough	18	18	22	190	15	14	19	smooth	23
honest	55	39	48	136	4	7	7	dishonest	23
passive	12	7	10	143	38	41	45	active	23
fair	67	52	55	101	7	10	5	unfair	22
weak	20	19	15	117	33	37	56	strong	22
fast	25	14	22	205	13	9	8	slow	23
unpleasant	20	18	28	111	55	33	31	pleasant	23
hard	19	21	27	205	5	6	13	soft	23
worthless	18	14	17	42	62	55	91	valuable	20

2.31-2.40

n = 319

Training in Teaching Methods for Prospective Professors

									No Response
good	105	61	53	42	15	8	20	bad	15
rough	19	17	15	195	21	13	18	smooth	21
honest	67	33	45	136	5	4	8	dishonest	21
passive	12	2	13	141	33	39	56	active	23
fair	81	46	50	98	12	4	8	unfair	20
weak	16	10	16	129	38	33	58	strong	19
fast	28	12	21	211	10	7	9	slow	21
unpleasant	15	17	25	119	44	39	39	pleasant	21
hard	22	17	30	208	7	6	9	soft	20
worthless	19	8	12	38	64	64	96	valuable	18

2.41-2.50

n = 319

Lecture Method Supplemented by Small Discussion Sections for Large Classes

									No Response
good	106	98	56	27	5	5	8	bad	14
rough	13	15	31	166	33	25	16	smooth	20
honest	57	57	47	131	3	1	3	dishonest	20
passive	6	2	9	123	52	62	46	active	19
fair	81	73	49	83	5	6	2	unfair	20
weak	7	11	14	112	43	61	53	strong	18
fast	23	29	27	194	14	6	6	slow	20
unpleasant	7	3	13	93	61	74	49	pleasant	19
hard	21	21	34	207	5	6	4	soft	21
worthless	5	3	4	36	67	93	93	valuable	18

2.51-2.60

n = 319

Straight Lecture Method for Large Classes

									No Response
good	22	47	46	45	58	44	44	bad	13
rough	27	29	43	162	21	15	3	smooth	19
honest	22	37	38	151	26	18	8	dishonest	19
passive	23	23	46	150	28	23	7	active	19
fair	16	41	43	95	53	32	21	unfair	18
weak	27	37	69	119	29	18	4	strong	16
fast	9	20	32	185	25	18	11	slow	19
unpleasant	16	29	43	135	45	26	7	pleasant	18
hard	14	21	44	196	14	6	5	soft	19
worthless	6	23	59	82	75	44	13	valuable	17

2.61-2.70

n = 319

Television Instruction in Introductory Courses

									No Response
good	25	39	68	69	24	27	53	bad	14
rough	33	22	35	174	16	13	7	smooth	19
honest	26	29	47	145	17	17	19	dishonest	19
passive	26	21	30	143	42	23	16	active	18
fair	20	33	49	118	27	21	32	unfair	19
weak	35	31	44	112	46	20	12	strong	19
fast	15	16	33	181	25	11	19	slow	19
unpleasant	28	13	33	136	53	24	13	pleasant	19
hard	14	22	38	191	13	13	8	soft	20
worthless	32	18	27	77	88	43	17	valuable	17

2.71-2.80

n = 319

Straight Television Instruction for Large Classes

									No Response
good	10	13	40	52	55	49	85	bad	13
rough	45	21	42	166	16	8	2	smooth	19
honest	20	14	26	157	24	29	30	dishonest	19
passive	32	32	44	150	27	8	7	active	19
fair	14	16	30	105	53	38	45	unfair	18
weak	44	43	68	114	14	13	4	strong	19
fast	12	20	25	184	20	16	23	slow	19
unpleasant	35	29	53	127	31	19	6	pleasant	19
hard	16	25	34	187	18	9	11	soft	19
worthless	34	39	65	73	62	19	9	valuable	18

3.6-3.15

n = 319

Honors Courses Consisting Only of Textbooks and Final Examinations

									No Response
good	29	50	46	48	45	39	46	bad	18
rough	26	37	45	164	10	10	4	smooth	23
honest	30	33	37	135	27	22	13	dishonest	22
passive	23	16	32	137	46	25	18	active	22
fair	31	48	36	98	38	23	23	unfair	22
weak	29	31	56	104	24	37	17	strong	21
fast	18	26	22	193	21	4	13	slow	22
unpleasant	14	11	33	143	36	40	20	pleasant	22
hard	23	35	31	177	12	11	7	soft	23
worthless	20	20	42	72	67	47	30	valuable	21

3.16-3.25

n = 319

Correspondence Courses

									No Response
good	14	30	67	45	41	46	60	bad	16
rough	31	26	40	181	11	5	4	smooth	21
honest	17	27	35	140	34	24	22	dishonest	20
passive	26	21	32	161	33	18	9	active	19
fair	16	33	54	121	30	21	25	unfair	19
weak	50	42	67	107	17	13	3	strong	20
fast	6	10	20	190	27	22	24	slow	20
unpleasant	27	22	41	149	39	17	4	pleasant	20
hard	14	13	30	186	25	13	16	soft	22
worthless	25	41	46	62	86	31	10	valuable	18

3.26-3.35

n = 319

Television Instruction Supplemented by Small Discussion Sections for Large Classes

									No Response
good	51	66	96	37	26	11	19	bad	13
rough	13	22	34	166	33	22	10	smooth	19
honest	33	56	53	132	12	6	8	dishonest	19
passive	9	7	28	135	62	36	23	active	19
fair	37	60	77	88	18	10	10	unfair	19
weak	18	12	47	104	59	40	21	strong	18
fast	11	30	43	178	22	8	8	slow	19
unpleasant	11	12	36	112	70	39	20	pleasant	19
hard	11	22	46	195	16	6	4	soft	19
worthless	11	10	32	50	93	67	38	valuable	18

3.36-3.45

n = 319

Television Instruction in Advanced Courses

									No Response
good	8	29	41	44	43	47	93	bad	14
rough	39	35	35	170	10	10	2	smooth	18
honest	19	26	37	147	25	16	31	dishonest	18
passive	37	20	38	152	25	22	7	active	18
fair	17	22	40	111	39	26	46	unfair	18
weak	59	37	59	102	25	16	5	strong	16
fast	10	19	26	189	19	17	21	slow	18
unpleasant	38	30	44	118	42	20	9	pleasant	18
hard	18	21	34	190	15	10	13	soft	18
worthless	54	30	56	72	56	26	9	valuable	16

3.46-3.55

n = 319

Answering Students' Questions in Large Classes

									No Response
good	59	79	74	32	29	25	8	bad	13
rough	31	31	50	160	15	12	13	smooth	17
honest	60	54	57	111	10	7	2	dishonest	18
passive	2	8	15	131	68	41	36	active	18
fair	68	57	76	63	19	15	4	unfair	17
weak	3	14	39	125	44	44	32	strong	18
fast	8	8	15	158	49	37	26	slow	18
unpleasant	12	14	41	105	62	40	27	pleasant	18
hard	25	28	53	185	6	2	1	soft	19
worthless	3	13	18	43	92	83	50	valuable	17

3.56-3.65

n = 319

Teaching Machines

									No Response
good	15	38	58	108	17	20	42	bad	21
rough	19	10	22	198	21	15	7	smooth	27
honest	23	27	35	156	17	9	25	dishonest	27
passive	27	16	16	168	30	18	17	active	27
fair	17	28	37	147	23	21	19	unfair	27
weak	31	18	32	156	28	15	12	strong	27
fast	20	26	25	184	12	14	11	slow	27
unpleasant	26	17	24	157	32	21	15	pleasant	27
hard	8	14	14	219	12	15	10	soft	27
worthless	22	16	28	117	64	29	18	valuable	25

3.66-3.75

n = 318

Myself as a Professor

									No Response
good	49	129	74	39	7	0	1	bad	19
rough	11	23	46	130	45	28	15	smooth	20
honest	149	77	24	46	2	0	1	dishonest	19
passive	2	1	3	59	38	99	97	active	19
fair	145	88	23	39	2	2	1	unfair	18
weak	4	0	10	66	61	104	53	strong	20
fast	29	59	54	130	21	2	3	slow	20
unpleasant	2	0	6	62	65	85	79	pleasant	19
hard	19	72	67	116	18	3	1	soft	22
worthless	1	0	1	47	49	122	80	valuable	18

3.76-3.80
4.6-4.10

n = 319

Myself Conducting a Lecture Course

									No Response
good	54	120	61	48	8	6	2	bad	20
rough	4	19	39	125	35	55	20	smooth	22
honest	122	77	23	71	3	1	0	dishonest	22
passive	3	1	8	73	45	91	76	active	22
fair	119	85	27	62	3	2	0	unfair	21
weak	2	2	17	68	64	102	41	strong	23
fast	26	58	53	134	20	4	1	slow	23
unpleasant	2	5	8	64	54	103	60	pleasant	23
hard	20	55	51	149	12	6	3	soft	23
worthless	0	1	3	54	65	125	49	valuable	22

4.11-4.20

n = 319

Myself Conducting a Television Course

									No Response
good	14	42	52	99	26	22	46	bad	16
rough	33	17	39	161	19	20	9	smooth	21
honest	68	33	24	153	4	3	13	dishonest	21
passive	13	6	11	148	38	43	41	active	19
fair	54	41	33	147	8	5	12	unfair	19
weak	24	12	32	139	30	46	15	strong	21
fast	14	28	32	183	17	9	15	slow	21
unpleasant	29	10	22	116	40	55	27	pleasant	20
hard	23	25	43	192	7	4	5	soft	20
worthless	16	19	20	116	69	44	15	valuable	20

4.21-4.30

n = 319

Myself Conducting a Large Class

									No Response
good	45	107	68	50	13	14	2	bad	20
rough	8	20	47	135	31	39	16	smooth	23
honest	102	69	30	92	3	1	0	dishonest	22
passive	1	5	5	88	44	85	69	active	22
fair	103	67	41	76	8	4	0	unfair	20
weak	3	3	28	80	61	83	38	strong	23
fast	26	49	56	134	23	8	0	slow	23
unpleasant	6	8	26	64	63	82	47	pleasant	23
hard	27	50	61	142	11	4	0	soft	24
worthless	1	2	12	57	81	102	41	valuable	23

4.31-4.40

n = 319

Myself Conducting a Small Class

									No Response
good	125	111	34	30	1	2	0	bad	16
rough	11	13	19	116	29	60	49	smooth	22
honest	146	66	19	67	1	0	0	dishonest	20
passive	1	0	5	74	30	76	113	active	20
fair	148	75	20	56	1	0	0	unfair	19
weak	1	0	0	66	37	110	85	strong	20
fast	54	61	46	128	5	5	0	slow	20
unpleasant	1	1	5	40	33	96	124	pleasant	19
hard	26	54	35	156	14	7	6	soft	21
worthless	0	0	1	45	39	107	107	valuable	20

4.41-4.50

n = 319

Myself Conducting an Introductory Course

									No Response
good	90	117	38	40	7	5	4	bad	18
rough	10	23	25	133	23	53	31	smooth	21
honest	128	61	22	84	2	1	0	dishonest	21
passive	1	2	2	84	30	91	88	active	21
fair	134	75	26	61	4	0	0	unfair	19
weak	2	4	4	72	48	106	62	strong	21
fast	30	57	55	132	19	5	0	slow	21
unpleasant	4	3	13	61	46	94	77	pleasant	21
hard	23	56	49	150	13	4	1	soft	23
worthless	0	0	5	53	56	109	75	valuable	21

4.51-4.60

n = 319

Myself Conducting an Advanced Course

									No Response
good	92	113	44	42	8	2	2	bad	16
rough	8	21	29	130	31	49	30	smooth	21
honest	132	57	22	87	1	0	0	dishonest	20
passive	1	2	3	88	39	71	95	active	20
fair	128	75	28	68	0	1	0	unfair	19
weak	2	2	12	70	57	91	66	strong	19
fast	39	53	43	144	14	6	0	slow	20
unpleasant	1	1	4	68	38	83	105	pleasant	19
hard	27	60	42	157	7	5	1	soft	20
worthless	0	0	2	55	49	109	84	valuable	20

4.61-4.70

n = 319

Myself Doing Publishable Research

									No Response
good	58	76	78	56	17	6	13	bad	15
rough	16	34	31	160	27	22	10	smooth	19
honest	110	56	33	100	0	0	0	dishonest	20
passive	5	6	11	104	59	59	57	active	18
fair	78	54	40	121	5	2	1	unfair	18
weak	7	9	21	98	64	68	33	strong	19
fast	13	27	38	129	48	31	13	slow	20
unpleasant	9	6	24	89	52	59	62	pleasant	18
hard	30	37	47	173	6	2	4	soft	20
worthless	7	2	9	62	84	79	58	valuable	18

4.71-4.80

From the list below check all of the teaching methods which you personally use or would like to use in large-enrollment introductory courses.

5.6 Class demonstrations 246

5.7 Classroom lectures 296

5.8 Field trips 127

5.9 Guest instructors 180

5.10 Motion pictures 216

5.11 Outside work or readings in addition to textbook 270

5.12 Private tutorial sessions 118

5.13 Slides 174

5.14 Socratic method 101

5.15 Supplementary small discussion sections 197

5.16 Supplementary viewing (occasionally) of television 131

5.17 Teaching machines 64

5.18 Television lectures 78

5.19 Use of blackboard 287

5.20-5.21 How many check marks did you make on this page? Mean = 7.80

From the list below check the criteria which you use in evaluating your students in a large-enrollment introductory course.

5.22 Attendance 169

5.23 Attitude 169

5.24 Class recitation 139

5.25 English usage 158

5.26 Essay tests 170

5.27 Neatness 119

5.28 Objective tests 239

5.29 Oral examinations 60

5.30 Promptness in completing assignments 209

5.31 Spelling 154

5.32 Tardiness 81

5.33 Themes or term papers 155

5.34 Extra work to raise grades 70

5.35 Showing improvement 207

5.36-5.37 What is your age? _____ Mean = 41.83 Range 24 - 75

5.38 What is your sex? Male 256 Female 63

5.39-5.40 How many dependents do you have? _____ Mean = 2.75 Range = 0 - 9

5.41 What is your highest, earned, academic degree?

Baccalaureate 32 Master's 122 Ed.D. 21

Ph.D. 111 Doctorate other than Ed.D. or Ph.D. 5

5.42-5.43 At how many institutions (including all educational levels) have you taught? _____ Mean = 3.06 Range 1 - 10 plus

5.44-5.45 How many years of full-time teaching experience do you have? _____ Mean = 13.20 Range 0 - 52

5.46-5.47 What is your professional field?

01 ARC 4
02 ANT 2
03 ART 3
04 BIO 10
05 CHM 12
06 DPC 0
07 DRA 3
08 ENG 23
10 FRE 2
11 GEO 5

12 GER 3
13 GRA 1
14 GRK 0
15 HEB 0
16 HIS 15
18 HEC 6
19 ITA 0
20 JOU 3
21 LAT 0
22 MTH 18

23 MS 6
24 MUS 11
28 PHI 4
29 PHY 6
30 POL 9
31 PSY 14
32 RAD 12
33 REL 0
34 RUS 0
35 SOC 1

36 SPA 3
37 SPC 2
40 ACC 8
41 ADV 2
42 AEC 1
44 ECO 6
45 FIN 1
46 GBA 9
47 INS 0
48 MGT 4
49 MKT 1
50 PAD 0
51 RE 0
52 RET 0
53 SEC 5
54 TRA 1
60 AED 2
61 ARE 0
62 BED 1

63 EED 4
64 FED 2
65 HPE 8
66 IED 1
67 MUE 1
68 SED 4
69 SPE 1
70 CHE 6
71 CE 7
72 EE 6
73 EDR 2
74 IE 4
75 ME 3
76 PET 0
77 LAW 6
78 OPT 3
79 PHA 5
80 AIR 1

81 ABP 0
82 AUT 4
83 UT 0
84 CIV 0
85 DSL 1
86 DFT 1
87 ELE 4
88 ELC 3
89 ENG 0
90 FU 0
91 IMO 0
92 ISC 1
93 MCH 0
94 MEC 1
95 RAD 4
96 REF 0
97 TMT 0
98 WLD 1
99 LIB 16

5.48 Have you published in professional journals in your own field? Yes 164 No 142 No Response 13

5.49-5.50 If yes, how many papers have you published? ______
Mean = 6.29 Range 1 - 78

5.51 Have you ever read a paper at a professional meeting?

Yes 170 No 136 No Response 13

5.52-5.53 If yes, how many papers have you read? _____

Mean = 5.14 Range 1 - 30 plus

5.54-5.55 What is your teaching load in semester hours? _____

Mean = 10.55 Range 1 - 20 plus

5.56-5.57 If you were teaching an introductory course in your field, approximately what size class would you prefer? _____

Mean = 32.14 Range "less than 10" - "over 99"

5.58-5.59 Approximately how many full-time faculty members are there in your department? _____

5.60 What is your academic rank?

Professor 74 Associate Professor 101

Assistant Professor 85 Instructor 57

Table 2

Sample - Pretest Interview

(Includes Final Frequency Count)

In order to respect the anonymity of the university and individual departments involved in the present investigation, any specific reference in the following tables to either will be deleted. The deletion will be noted with the following mark ☆

INTERVIEW SCHEDULE

PSYCHOLOGY RESEARCH PROJECT NO. 13

Instructions to Interviewer

In contacting the interviewee, efforts in establishing rapport may be more successful if, in your initial call to the prospective interviewee, you reflect the following idea:

> "We notice that you were kind enough to cooperate with us on our psychology research project by filling out the questionnaire that was sent to you through the mail recently. If it would be possible, I would like to get your impressions in more detail on certain aspects of teaching. When would you have a free hour during which we could get together? Let me emphasize again that, consistent with the ethics of such research, we will not in any way reveal your individual responses to the things we will be discussing."

Another suggestion: Please record responses as fully as possible and write as legibly as possible.

NAME OF RESPONDENT FREQUENCY COUNT

CODE NO.________________ DEPARTMENT________________

OFFICE EXTENSION____________ HOME PHONE________________

Interviewers	Code Numbers	
Dr. Daniel E. Sheer	1	________
Dr. Samuel R. Pinneau	2	________
Dr. Laurence S. McGaughran	3	________

Interview Schedule
Psychology Research Project No. 13

1. I believe that you completed the questionnaire which we recently sent you. Isn't that right?

2. (If answer is "Yes") What are some of the things about it which you liked most, if any?

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

n = 120

Liked

21 - Easy to answer; clear and easily understood

19 - Questionnaire comprehensive

14 - Enjoy giving opinions

10 - Worthwhile attempt at scientific knowledge

11 - Miscellaneous

3. What are some of the things about it which you ~~liked~~ disliked most, if any?

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

n = 120

Disliked

84	- Questionnaire ambiguous, confusing, unclear
29	- Lack of clarity of purpose
18	- Took too much time
17	- Limits and prejudices answers
11	- Questionnaire and issues irrelevant
10	- General disapproval and opposition to questionnaire
6	- Responses fluctuate, not reliable

4. As you know, there has been a lot of controversy recently concerning content versus method in teaching. For example, universities virtually never require prospective professors to obtain training in teaching methods. How do you feel about this practice?

Questions 4 and 5 are combined and the answers categorized as follows:

n = 120

48 - Content sufficient

32 - Content important but method important too

13 - Both method and content of equal importance

9 - Education courses not helpful, but some methods needed

7 - Method most important

6 - Low incident answers

5 - Depends on level of teaching: high school, college, or graduate

5. (After respondent has stated his position, probe.) Why?

6. How do you feel about the plan to control the effects of the large population increase on college enrollments which involves drastically up-grading the entrance requirements for students?

n = 120

FAVOR

18 - Pick those who are able

15 - Keep up standards of quality education

14 - Prevent waste on poor students

8 - Get better performance and graduates

8 - Best students may use the limited facilities

5 - Better students are stimulating to teachers

24 - Miscellaneous

7. (After respondent has stated his position, probe.) Why?

AGAINST

22 - Upgrading is undemocratic

13 - Lose the false postives

13 - Should let students in, then prune

8 - Students might perform poorly because of poor high school background

13 - Miscellaneous

NO OPINION

16 - Upgrading should be left to the particular school

6 - Upgrading should be carried on regardless of enrollment demands

4 - Both sides are seen

5 - Miscellaneous

8. Have you heard much about teaching machines?

How and why - feel as you do about teaching machines. (Over-all rating of questions 9 - 12)

Favor 29 Against 67 No Opinion 24

(If respondent states "No," begin...) Well, in brief terms...

(If respondent states "Yes," begin...) As you know...

(Continue for both groups...) These devices present a series of problems or questions to the student, and after he has attempted to answer them, they provide the correct answer automatically. The student proceeds at his own rate. Later material cannot be understood without learning the earlier material. The machines are usually built in such a way as to provide a permanent record of the student's work.

9. As you can imagine, some professors are opposed to teaching machines; others are in favor of them. Imagine yourself for a moment as an individual who is strongly opposed to the use of teaching machines. Now state as many different reasons as you can for your opposition to their use.

(1)

Questions 9 through 12 are combined and the answers categorized as follows:

n = 120

FAVOR

(2)

57 - Reach more students, solve teacher shortage

48 - Teaching machines good for drill and practice

(3)

30 - Machine is more effective

25 - Standardize teaching, is dependable

(4)

19 - Cheaper

16 - Student learns at his own rate

(5) 10 - Provides cumulative record of progress

10 - Motivates student

54 - Miscellaneous favor

(6)

(7)

(8)

(9)

(10)

AGAINST

85 - Machine is too impersonal, no discussion
31 - Machine can handle only facts, is uncreative
27 - Machine won't motivate student
24 - Machine is limited - other reasons unclear
14 - Machine is inflexible, not up to date
13 - Machine will cause unemployment of teachers
12 - Not possible to use machine in my subject
10 - Too expensive
10 - Machine can't handle individual problems
64 - Miscellaneous against

10. Now imagine yourself for a moment as an individual who strongly supports the use of teaching machines. State as many different reasons as you can for your support of their use.

(1)

(2)

(3)

(4)

(5)

(See Page 5)

(6)

(7)

(8)

(9)

(10)

11. How do you personally feel about teaching machines?

(See Page 5)

12. (Probe) Why?

13. As you know, some professors are strongly opposed to teaching by television; others are in favor of it. Imagine yourself for a moment as an individual who is strongly opposed to teaching by television. Now state as many different reasons as you can for your opposition to television instruction.

(1)

Questions 13 and 14 are combined.

Combined overview rating on questions 13 and 14: (n = 119)

(2)

Favor 47

Against 60

(3)

No Opinion 12

FAVOR (n = 120)

(4)

(5)

(6)

(7)

(8)

72	-	TV reaches more students
61	-	TV is useful as a supplement
42	-	TV is economical, effective and efficient
36	-	Outstanding lectures available to all
29	-	TV raises the standard of teaching
16	-	TV eases the teacher load, gives time for research
15	-	TV lectures can be reused
7	-	TV may be viewed at home, with fewer distractions
45	-	Miscellaneous favor

(9)

(10)

14. Now imagine yourself for a moment as an individual who is strongly in favor of teaching by television. State as many different reasons as you can for your support of television instruction.

AGAINST n = 120

103	- Lack of personal contact
21	- Too many distractions at home, lack of intellectual atmosphere
20	- Against TV because of fear of new things and/or unemployment
19	- It is more difficult to teach on TV
15	- No motivation with TV
12	- Can't teach laboratory courses or workshops on TV
12	- TV limited because of misinterpretation of viewpoints
5	- TV lowers level of instruction
68	- Miscellaneous against TV

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

15. How do you personally feel about television instruction?

For questions #15 and 16, 48 response categories with their frequency counts are listed in Table 4 in the APPENDIX.

16. (Probe) Why?

17. What great people, living or dead, do you admire most?

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

This three-point scale was derived from a five-point scale by two raters.

n = 1

See explanation in Procedure Section of main report.

		Authoritarianism
1	59	High
2	35	Medium
3	24	Low

18. We get a feeling of awe when something seems to us wonderful, or impressive, or really important. What things would give you the greatest feeling of awe?

What gives you feelings of awe? n = 120

Ranked from 1 (high) to 5 (low) and converted to a three-point scale by two raters:

		Authoritarianism
1	47	High
2	47	Medium
3	24	Low

Evaluation of attitudes through interviews on 1 to 9 scale:

Secure	1.	0	Tolerant	1.	1	Sophisticated	1.	0
	2.	3		2.	7		2.	3
	3.	17		3.	12		3.	10
	4.	25		4.	18		4.	25
	5.	17		5.	17		5.	27
	6.	30		6.	27		6.	30
	7.	16		7.	24		7.	19
	8.	7		8.	8		8.	5
Evasive, tense	9.	5	Hostile, Negative	9.	6	Bland, Mediocre	9.	1

19. If you were the president of a university and Charles Van Doren applied for a position as a faculty member, would you hire him?

Yes 43 No 51 No Opinion 25

FAVOR (n = 120)

48 - Good instructor, take advantage of this

33 - Van Doren corrected his mistake, give him another chance

17 - Everyone would have done the same thing

16 - Was victim of circumstances
16 - No moral issue is involved; it was done off campus
2 - If he has qualifications, hire him in a non-teaching position

13 - Miscellaneous favor

20. (After respondent has stated his position, probe.) Why?

AGAINST (n = 119)

40 - Van Doren was dishonest, disqualified himself, lied, was immoral

18 - Unprofessional attitude, unethical, no excuse for his action

15 - Bad public relations, harm to the University reputation

14 - He would lose respect of the students, lose their trust, set a bad example

5 - Would distrust him, be wary of his future honesty

4 - His contribution would be doubtful, be uncomfortable

14 - Miscellaneous against

19. (Continued)

NO OPINION

15 - Need to know facts of the incident

7 - He should be judged on record before incident

11 - Miscellaneous, no opinion

Table 3

Sample - Posttest Interview

(Includes Final Frequency Count)

In order to respect the anonymity of the university and individual departments involved in the present investigation, any specific reference in the following tables to either will be deleted. The deletion will be noted with the following mark ☆

RE-INTERVIEW SCHEDULE

PSYCHOLOGY RESEARCH PROJECT NO. 13

Instructions to Interviewer

In contacting the interviewee, efforts in establishing rapport may be more successful if, in your initial call to the prospective interviewee, you reflect the following idea:

> "You were kind enough to cooperate with us on our psychology research project by allowing us to interview you several weeks ago. I know this is an imposition, but if it would be possible, I would like to get your impressions in more detail on certain aspects of teaching than we were able to get from the first interview. When would you have a free period during which we could get together? Let me emphasize again that, consistent with the ethics of such research, we will not in any way reveal your individual responses to the things we will be discussing. Incidentally, this is the final interview, and we won't require any further cooperation from you. You will hear of the results of this government-supported project soon."

Another suggestion: Please record responses as fully as possible and write as legibly as possible.

NAME OF RESPONDENT **FREQUENCY COUNT** (n = 117 Throughout)

CODE NO.______________ DEPARTMENT______________

OFFICE EXTENSION______________ HOME PHONE______________

Interviewers	Code Numbers	
Dr. Daniel E. Sheer	1	______
Dr. Samuel R. Pinneau	2	______
Dr. Laurence S. McGaughran	3	______

Re-Interview Schedule
Psychology Research Project No. 13

1. What do you believe good university level teaching really consists of?

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

ADVANTAGES

63	-	Teacher knows content, keeps up with research
55	-	Good preparation and use of methods
43	-	Teacher should have personality and interest in students
36	-	Good teaching - students are inspired
19	-	Students are taught to think
12	-	Class participation
10	-	Relate to other courses, give unified world view
49	-	Miscellaneous

2. The video tape recorder, as you know (for Dept. "A" faculty and Dept. "B" faculty☆ add "from your recent experience"), is a device that records on tape both a picture and sound which can be played back immediately. What, in your opinion, might be the disadvantages of such a device if it were made available to university departments as a possible means of qualitatively improving course instruction?

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

DISADVANTAGES

47 - Loss of personal contact

18 - TV tape wasteful, too much work and time to make

14 - Embarrassment before camera, self-consciousness

13 - TV tape too artificial

13 - Too expensive

13 - May be misused or cause unemployment

12 - Lose individual attention to student

4 - Detract from subject matter and content of course

55 - Miscellaneous

3. In your opinion, what might be the advantages of the video tape recorder as a means of improving instruction?

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

ADVANTAGES

43	-	Possible to self-criticise to improve
42	-	Good supplement and aid
28	-	Can view outstanding teachers
24	-	Can reach a larger number of people
19	-	Good preparation and organization required
9	-	Can repeat the lectures
54	-	Miscellaneous advantages

(ONLY FOR RESPONDENTS NOT IN DEPARTMENT "A" OR "B")☆

4. As part of an improvement of teaching project, all of the members of the two participating experimental groups have completed television tapes of their lectures and privately viewed the results. They also have been developing video tape presentations that could theoretically be used for their introductory courses. Have you heard about this project?

Yes 29

No 68

Plus 20 not included here who were involved in the experiment

(If "No," go on to the next page.)

(If "Yes") From whom have you heard about it?

17 - Have heard from Dept. A source

6 - Have heard from other source than these two departments

3 - Have heard from both Dept. A and Dept. B

I - Have heard from Dept. B source

5. What have you heard about this activity?

13	-	Heard something but vague about the project
10	-	Have heard an opinion against the project
5	-	Have heard about the procedure or other things
4	-	Have heard an opinion for the project
4	-	Have heard mixed feelings about the project

6. As a means of more adequately interpreting your opinions, I'd like once again to get your reactions to television instruction. As you know, some professors are strongly opposed to teaching by television; others are in favor of it. Imagine yourself again for a moment as an individual who is strongly opposed to teaching by television. Now state as many different reasons as you can for your opposition to television instruction.

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

DISADVANTAGES

101	-	No personal contact
19	-	TV doesn't motivate the students
16	-	Fear of inadequacy and unemployment
16	-	Lack of intellectual atmosphere
11	-	Difficult to teach on TV
8	-	Can't cover laboratory or workshop
7	-	Controversial viewpoints can't be presented because of misinterpretation
3	-	TV lowers the level of instruction
70	-	Disadvantages Miscellaneous

7. Now imagine yourself again for a moment as an individual who is strongly in favor of teaching by television. State as many different reasons as you can for your support of television instruction.

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

ADVANTAGES

74 - TV reaches more students

63 - TV useful as a supplement

36 - Outstanding lectures available to all

34 - TV economical, effective, efficient

32 - TV raises the standard of teaching

16 - TV eases the teacher load and gives time for research

12 - TV lectures can be re-used

3 - TV has fewer distractions and can be viewed at home

56 - Miscellaneous advantages

8. How do you personally feel about television instruction?

Overview of Question 8:

Favor	54
Against	41
No Opinion	22

9. (Probe) Why?

Response categories and their frequency counts for Question 9 are listed in Table 4 in the APPENDIX.

10. I believe you have already indicated to me what you believe good university teaching consists of. Now, imagine yourself in this situation. Supposing you were the Dean of a college and you wished to improve the teaching of your faculty. What approach would you take to this problem?

48 - Give rewards of money and recognition

40 - Hire competent teachers

28 - Require refresher courses and further study

22 - In-class observation and approval of lesson plans

18 - Gather student opinions

16 - Use group discussion and inter-departmental meetings

16 - Not possible for me to improve the teaching faculty

12 - Use audio-visual aids

8 - Make improvements in teaching facilities

51 - Miscellaneous

Table 4

Frequency Count of 48 Response Categories on Pre- and Post-Experiment Interviews in Answer to the Question "How Do You Personally Feel About Television Instruction? and Why?"

Pre-Test	Post-Test	Item Category
		TV in General
		1. General Feelings
6	3	. . . I think it is the invention of the devil except in rare cases; strongly opposed.
25	20	. . . TV is boring; I wouldn't teach on TV; Would get out of teaching and into research if TV took a strong hold; personally not in favor.
11	10	. . . Limitations are accentuated on TV; Too many complications and personal and faculty morals; Need full administrative support; skeptical.
30	41	. . . Useful in certain areas; Can be effective medium; Favor for some subjects which lend themselves to the media; More efficient for certain courses; Highly advantageous if used in suitable place; Good for certain individuals; Certain things could be presented without interruptions; Under certain circumstances.
18	13	. . . Over-all TV is good; I'm in favor; all right; O. K.
3	4	. . . Wonderful opportunity; Wonderful educational media; Should exploit; I'm sold on it.
1	0	. . . No limit to possibilities; Has infinite possibilities.

Pre-Test	Post-Test	Item Category
		TV in General (Cont.)
		2. Progressive
4	2	. . . . Gadget won't replace personal contact; Since TV is new, many want to jump on the bandwagon; Is a failure because it is a machine.
4	7	. . . . It's progressive; I'm in favor of anything new and expansive and doing things new ways; I'd like to try to master it; I'd like to try it; I'm not against learning something new.
		3. Needs Experimenting
3	10	. . . . It's a good media; should be explored and used more; Should be explored further.
2	3	. . . . Still open-minded, experimentally inclined, should be tested; Would have to try it out.
		4. Don't know, but:
1	0	. . . . Believe satisfactory, but no proof
6	4	. . . . Don't know facts; Don't know; no personal contact; Undecided.
		Course Content TV vs. Traditional Presentation
		I. Application
		a. Extent of replacement of classroom lecture
4	2	. . . . . Not possible to use in the forseeable future; Can't do adequate job; Not a satisfactory substitute; I don't believe every course should be taught on TV.

Pre-Test	Post-Test	Item Category
		Course Content (Cont.)
		I. Application
		a. Extent of replacement of classroom lecture (cont.)
12	3	Slightly in favor of classroom teaching; I think it takes a different student body; one with more initiative and digging out; Might be of some use for those who can learn best by TV; Would not like it because teaching grows out of recitation; O.K. for limited purposes; TV for limited use; TV is limited to the areas you can apply it; Should not be overemphasized; not the method for the majority.
7	3	Favor with need to assure the average teacher that he will not be replaced by TV; Must be followed up or will be just entertainment; Not the complete solution to replace the professor; Not the complete answer; Should not replace the classroom; Entire course on TV for Political Science not adequate.
10	17	O.K. if have a period where professor and student meet; Should be small discussion groups to thresh out pros and cons along with TV lectures; Supplement with personal instruction; A good combination is TV with recitation; TV supplemented with personal instruction.
6	14	Favor use of closed circuit classes as a supplement; Good adjunct or complement to classroom; Good study aid and supplement; Excellent teaching aid; TV good as teaching aid.

Pre-Test	Post-Test	Item Category
		Course Content (Cont.)
		1. Application
		b. Level of Instruction
5	3	Partially replace millions of dollars spent for education under the guise of public relations; Not for college education; Purely for public consumption showing recent advancements; Inform the general public about science; Entertainment purposes.
5	2	Adult education best area for TV; Good for adult education; Tremendous value for adult education; Learn foreign language at home.
9	5	Good in basic courses; O.K. for beginning courses; elementary; Capitalize on TV especially at the level of freshman and introductory courses; Good idea for some courses, elementary; Should start way down the educational ladder so that individual becomes accustomed to TV instruction; Should be used in preliminary courses.
3	0	Bad for introductory courses; Should not abruptly start any college course on TV; Not for first year students.
1	1	Would extend use of TV to full course for undergraduates; not for graduates.
		c. Method of Presentation of Subject
1	3	Courses where give facts would be good; All right for pure lecture material; Good idea for lecture courses; Prefer for large lecture room technique; Rather see good TV lecture than a poor small class.
9	8	Minimum of lecture and maximum of demonstration would be good; An advantage; In lab demonstration teaching; More applicable in science; present experiments rather than straight lecture; fine where more lab demonstrations; Able to see what's going on in other places.

Pre-Test	Post-Test	Item Category
		Course Content (Cont.)
		1. Application
		c. Method of Presentation of Subject (Cont.)
8	14	Not for art until color is improved; Not applicable to my course; Not yet in History - still prefer big lecture sessions; Not for shop - hand to hand - vocational work; Not complete substitute for lab; Music appreciation but not theory or composition; Little application for engineering work
		d. Size of Class
2	1	Good teacher in a small class is better.
5	7	Very much in favor for large classes; if have large audience can spend more time preparing lecture; Better to have large class taught by TV than to limit number of students; Large size course could be taught by TV; Only for large classes.
3	0	Better to have certain kinds of classes taught by TV than to have large classrooms; TV has more advantages than large classrooms; overcomes classroom obstacles.
		2. Quality of Course
7	8	Produced mass medocrity; Skeptical - if it were good experience, other larger universities would have taken it up; The truely great schools don't use it; TV teaching not an academic position; Instruction not as good on TV; Shouldn't involve college graduates or credit; Lowers academic standards and level of instruction; commercializes education; Weakens education.

Pre-Test	Post-Test	Item Category
		Course Content (Cont.)
		2. Quality of Course
6	4	TV will upgrade educational program; It works well elsewhere (Kansas City); TV better than lectures I've otherwise experienced.
		Students' Attitude
10	8	Student is opposed; Wouldn't like to take TV course; Students seem to dislike; If I were a student, I wouldn't watch it; Students say they can't get questions answered; Students resent barriers between selves and faculty.
		Effects on Learning
7	0	Students fail and you don't know why; Students don't learn as much as they should; Experience with TV trigonometry students gives me doubts; Have tried it with no positive results.
4	3	Student relaxes too much; Students too relaxed; May give students mistaken ideas; Too many distractions at home; Can't audit students' verbal performance in foreign languages; Moves too fast.
4	4	Very few fail TV courses; Average grades higher in TV courses; Results better than classroom; TV very effective from my experience with it; Results same as classroom.
		Instructor
		1. Economy in Time
4	10	Have to approach TV with a lot of preparation; Can't do justice to other courses if giving a TV course; Would need constant revision; Too much administrative duty involved.

Pre-Test	Post-Test	Item Category
		Instructor (Cont.)
		1. Economy in Time
4	3	Would conserve my time and energy; Could repeat if didn't understand; Economize the learners' time; For language drill.
		2. Economy in Cost
2	1	Very expensive.
2	3	May not be less expensive; Cost may be the same.
2	1	Enrollment would warrent cost at present.
3	4	Could be a great saving; Think inevitable in reducing cost; Efficient and economical.
		3. Aid Teacher Shortage
12	6	Will meet the Communist challenge to our technology; Relieves teaching load; Need to utilize all facilities for maximum benefits; Think inevitable in reducing faculty, salaries, and space; Will (in part) answer critical teacher shortage; Eases teacher shortage and reduces the work; TV is answer to limited facilities and teachers; To meet future increased enrollment; Need to multiply efforts of college professors to meet population demands.
		4. Reaches More People
10	11	Reaches large number of students; More students reached; reach great mass; Wonderful medium for getting knowledge universally distributed; Perhaps good where students can't come to the university.

Pre-Test	Post-Test	Item Category
		Instructor (Cont.)
		5. Requires Special Training
3	3	Personal experience is the main factor; Should have training in TV teaching; Most instructors have not had sufficient experience.
		6. Limits Number of Qualified Instructors
4	5	Limitations are accentuated on TV; Personality of lecturer is important - same can't to TV and class lecture; Few teachers have the right personality for TV; I wouldn't be a good TV instructor; Probably fine as long as I am not involved; Not enough personality comes over TV to make it pay.
2	0	Depends on teacher - up to the individual; Good for certain individuals.
4	6	Has to be good classroom teacher - enthusiastic; The good teacher should be doing TV teaching; Could have outstanding lecturers, best lecturers available.
		Student-Instructor Contact
6	1	Impersonal, omits individuality; Creativity not correlated with polish - would achieve polished lectures for TV; Learning depends on individual personal needs, wants, and desires; Can't handle individual deficiencies or shortcomings; TV eliminated the individual personality.
27	8	Leaves out interaction; Leaves out exploration of new ideas and spontaneous questions; Professor not able to grade papers based on own lectures; Student can't challenge; In favor of personal presentations where professor can correct self; Students can't express themselves; Can't ask or answer questions; Person in charge of course should be available for answering questions and giving grades; Students can't ask questions or express opinions.

Pre-Test	Post-Test	Item Category
		Student-Instructor Contact (Cont.)
27	27	Lose of interpersonal relationship; I like to know my students; Would always have to be someone between professor and student with confusion in this kind of relationship; Wouldn't want to teach without student contact; Lack of personal contact; Lack of student-faculty relationship; Lose instructor-student relationship; Poor instructor in classroom better than good one on TV because of important faculty-student contact; Student needs personal contact; Learning is spirtiual process of student-teacher relationship; Lose student-teacher contact, personal contact; rapport; TV is last resort because of student-teacher contact; I would not want to be a TV instructor - I feel better with people in front of me.
1	0	Not particularly interested in personal contact.
=====	=====	
354	324	Total Number Responses
2.95	2.77	Average Number Responses per Person

Section 1

Means and Standard Deviations for 300 Osgood Scales

	Frontier Fiesta		Night Students	
	Mean	S. D.	Mean	S. D.
Bad-Good	4.48	1.75	5.74	1.34
Dishonest-Honest	4.68	1.37	5.40	1.26
Unfair-Fair	4.36	1.33	5.17	1.29
Unpleasant-Pleasant	4.82	1.57	5.19	1.46
Worthless-Valuable	4.48	1.73	5.98	1.18
Rough-Smooth	3.59	1.73	4.05	1.23
Weak-Strong	4.08	1.46	4.86	1.44
Soft-Hard	4.39	1.05	4.44	1.05
Passive-Active	4.96	1.51	5.03	1.40
Slow-Fast	4.49	1.14	4.22	1.20

	Athletic Scholarships		Additional Tuition Increase	
	Mean	S. D.	Mean	S. D.
Bad-Good	4.10	1.93	2.69	1.83
Dishonest-Honest	3.74	1.70	5.01	1.46
Unfair-Fair	3.94	1.80	4.12	2.00
Unpleasant-Pleasant	3.89	1.38	2.38	1.30
Worthless-Valuable	4.29	1.79	4.46	1.52
Rough-Smooth	3.83	1.05	3.02	1.26
Weak-Strong	3.88	1.33	4.10	1.35
Soft-Hard	4.15	1.09	4.89	1.19
Passive-Active	4.50	1.26	4.62	1.21
Slow-Fast	4.04	1.03	4.10	1.02

	Higher Entrance Requirements for the University of ☆		More Fringe Benefits with Smaller Salary Increase	
	Mean	S. D.	Mean	S. D.
Bad-Good	5.90	1.50	3.16	1.76
Dishonest-Honest	5.43	1.40	4.22	1.35
Unfair-Fair	5.66	1.50	3.94	1.66
Unpleasant-Pleasant	4.50	1.64	3.77	1.60
Worthless-Valuable	5.92	1.42	4.08	1.53
Rough-Smooth	3.70	1.37	3.63	1.17
Weak-Strong	5.32	1.44	3.79	1.28
Soft-Hard	4.80	1.13	4.18	0.95
Passive-Active	5.11	1.31	4.24	1.20
Slow-Fast	4.37	1.09	3.90	0.85

	Larger Salary Increase with Fewer Additional Fringe Benefits		University of ☆ Becoming a State University	
	Mean	S. D.	Mean	S. D.
Bad-Good	5.60	1.52	5.67	1.54
Dishonest-Honest	5.08	1.36	5.30	1.41
Unfair-Fair	5.51	1.33	5.64	1.37
Unpleasant-Pleasant	5.46	1.40	4.99	1.60
Worthless-Valuable	5.65	1.30	5.80	1.26
Rough-Smooth	4.37	1.22	4.11	1.50
Weak-Strong	4.90	1.35	5.01	1.49
Soft-Hard	4.05	.97	4.21	1.01
Passive-Active	4.77	1.27	4.99	1.42
Slow-Fast	4.34	1.08	4.58	1.29

	Admitting Qualified Negroes to the University of ☆		Emphasis on Research at University of ☆	
	Mean	S. D.	Mean	S. D.
Bad-Good	4.92	1.88	5.68	1.55
Dishonest-Honest	5.43	1.44	5.10	1.44
Unfair-Fair	5.64	1.47	5.23	1.48
Unpleasant-Pleasant	3.78	1.69	5.12	1.39
Worthless-Valuable	5.01	1.59	5.92	1.28
Rough-Smooth	3.30	1.43	3.93	1.35
Weak-Strong	4.77	1.48	5.08	1.57
Soft-Hard	4.57	1.12	4.47	1.10
Passive-Active	4.87	1.37	5.12	1.46
Slow-Fast	4.10	1.24	4.43	1.24

	Training in Teaching Methods for Professors		Training in Teaching Methods for Prospective Professors	
	Mean	S. D.	Mean	S. D.
Bad-Good	5.00	1.86	5.31	1.76
Dishonest-Honest	4.85	1.40	4.92	1.44
Unfair-Fair	5.07	1.44	5.14	1.50
Unpleasant-Pleasant	4.30	1.56	4.45	1.55
Worthless-Valuable	5.16	1.77	5.31	1.71
Rough-Smooth	3.96	1.30	3.98	1.28
Weak-Strong	4.55	1.71	4.65	1.60
Soft-Hard	4.34	1.18	4.28	1.13
Passive-Active	4.66	1.45	4.76	1.48
Slow-Fast	4.24	1.17	4.29	1.19

	Lecture Method Supplemented by Small Discussion Sections for Large Classes		Straight Lecture Method for Large Classes	
	Mean	S. D.	Mean	S. D.
Bad-Good	5.74	1.37	3.77	1.85
Dishonest-Honest	5.06	1.27	4.31	1.32
Unfair-Fair	5.39	1.35	3.98	1.55
Unpleasant-Pleasant	5.05	1.36	4.02	1.14
Worthless-Valuable	5.68	1.27	4.26	1.35
Rough-Smooth	4.10	1.26	3.59	1.24
Weak-Strong	4.89	1.47	3.52	1.32
Soft- Hard	4.37	1.06	4.29	1.02
Passive-Active	4.94	1.32	3.78	1.31
Slow-Fast	4.37	1.16	3.90	1.30

	Television Instruction in introductory Courses		Straight Television Instruction for Large Classes	
	Mean	S. D.	Mean	S. D.
Bad-Good	3.95	1.86	2.97	1.70
Dishonest-Honest	3.93	1.31	3.81	1.48
Unfair-Fair	4.03	1.59	3.47	1.57
Unpleasant-Pleasant	3.99	1.42	3.57	1.40
Worthless-Valuable	4.22	1.61	3.61	1.53
Rough-Smooth	3.62	1.30	3.40	1.28
Weak-Strong	3.70	1.52	3.22	1.36
Soft-Hard	4.20	1.12	4.21	1.18
Passive-Active	3.95	1.42	3.53	1.31
Slow-Fast	4.02	1.25	3.93	1.29

	Honors Courses Consisting Only of Textbooks and Final Exams.		Correspondence Courses	
	Mean	S. D.	Mean	S. D.
Bad-Good	3.91	1.92	3.53	1.83
Dishonest-Honest	4.28	1.48	3.97	1.44
Unfair-Fair	4.24	1.67	4.07	1.49
Unpleasant-Pleasant	4.27	1.37	3.73	1.28
Worthless-Valuable	4.37	1.63	3.92	1.56
Rough-Smooth	3.48	1.21	3.49	1.18
Weak-Strong	3.81	1.59	3.17	1.39
Soft-Hard	4.39	1.24	4.00	1.20
Passive-Active	4.06	1.43	3.81	1.32
Slow-Fast	4.20	1.20	3.72	1.19

	Television Instruction Supplemented by Small Discussion Section for Large Classes		Television Instruction in Advanced Courses	
	Mean	S. D.	Mean	S. D.
Bad-Good	4.90	1.63	3.04	1.83
Dishonest-Honest	4.72	1.33	3.99	1.50
Unfair-Fair	4.80	1.42	3.69	1.64
Unpleasant-Pleasant	4.38	1.35	3.64	1.49
Worthless-Valuable	4.85	1.48	3.52	1.66
Rough-Smooth	3.97	1.22	3.38	1.26
Weak-Strong	4.26	1.46	3.22	1.50
Soft-Hard	4.28	0.98	4.19	1.21
Passive-Active	4.45	1.28	3.67	1.41
Slow-Fast	4.25	1.11	3.93	1.25

	Answering Students' Questions in Large Classes		Teaching Machines	
	Mean	S. D.	Mean	S. D.
Bad-Good	5.00	1.63	3.99	1.66
Dishonest-Honest	5.05	1.34	4.16	1.46
Unfair-Fair	5.10	1.48	4.08	1.41
Unpleasant-Pleasant	4.39	1.44	3.95	1.40
Worthless-Valuable	5.18	1.35	4.17	1.46
Rough-Smooth	3.48	1.24	3.91	1.13
Weak-Strong	4.51	1.36	3.77	1.39
Soft-Hard	4.57	1.03	3.98	1.02
Passive-Active	4.73	1.24	3.96	1.41
Slow-Fast	3.52	1.26	4.22	1.26

	Myself as a Professor		Myself Conducting a Lecture Course	
	Mean	S. D.	Mean	S. D.
Bad-Good	5.56	1.02	5.46	1.21
Dishonest-Honest	6.07	1.16	5.81	1.24
Unfair-Fair	6.08	1.16	5.84	1.22
Unpleasant-Pleasant	5.53	1.20	5.41	1.26
Worthless-Valuable	5.76	1.06	5.54	1.02
Rough-Smooth	4.07	1.33	4.39	1.35
Weak-Strong	5.36	1.23	5.23	1.21
Soft-Hard	4.81	1.12	4.63	1.16
Passive-Active	5.72	1.22	5.49	1.29
Slow-Fast	4.75	1.21	4.73	1.17

	Myself Conducting a Television Course		Myself Conducting a Large Class	
	Mean	S. D.	Mean	S. D.
Bad-Good	3.90	1.70	5.24	1.33
Dishonest-Honest	4.82	1.53	5.58	1.29
Unfair-Fair	4.74	1.48	5.56	1.33
Unpleasant-Pleasant	4.34	1.63	5.04	1.43
Worthless-Valuable	4.32	1.40	5.31	1.13
Rough-Smooth	3.71	1.37	4.16	1.33
Weak-Strong	4.13	1.47	5.01	1.30
Soft-Hard	4.44	1.10	4.76	1.11
Passive-Active	4.62	1.43	5.36	1.29
Slow-Fast	4.17	1.23	4.65	1.18

	Myself Conducting a Small Class		Myself Conducting an Introductory Course	
	Mean	S. D.	Mean	S. D.
Bad-Good	6.07	1.03	5.70	1.30
Dishonest-Honest	5.97	1.22	5.76	1.30
Unfair-Fair	6.04	1.16	5.91	1.21
Unpleasant-Pleasant	5.96	1.16	5.46	1.35
Worthless-Valuable	5.92	1.06	5.66	1.09
Rough-Smooth	4.73	1.56	4.41	1.50
Weak-Strong	5.70	1.13	5.44	1.23
Soft-Hard	4.59	1.27	4.70	1.13
Passive-Active	5.72	1.27	5.57	1.26
Slow-Fast	5.05	1.25	4.77	1.18

	Myself Conducting an Advanced Course		Myself Doing Publishable Research	
	Mean	S. D.	Mean	S. D.
Bad-Good	5.74	1.20	5.11	1.51
Dishonest-Honest	5.78	1.29	5.59	1.28
Unfair-Fair	5.87	1.21	5.23	1.32
Unpleasant-Pleasant	5.70	1.25	4.97	1.51
Worthless-Valuable	5.73	1.08	5.27	1.31
Rough-Smooth	4.42	1.45	3.85	1.30
Weak-Strong	5.38	1.26	4.80	1.37
Soft-Hard	4.75	1.15	4.63	1.15
Passive-Active	5.53	1.30	5.03	1.38
Slow-Fast	4.80	1.23	3.94	1.36

Section 2

Means of 7-Point Osgood Scales for Student Sample

N=45

	Lecture Method Supplemented by Small Discussion Section for Large Classes	Straight Lecture Method for Large Classes
	Mean	Mean
Bad-Good	5. 07	3. 52
Dishonest-Honest	5. 53	4. 59
Unfair-Fair	5. 70	3. 95
Unpleasant-Pleasant	6. 02	3. 41
Worthless-Valuable	5. 91	4. 41
Rough-Smooth	4. 56	3. 45
Weak-Strong	4. 95	3. 23
Soft-Hard	4. 14	5. 27
Passive-Active	4. 67	3. 61
Slow-Fast	4. 37	5. 23

	Television Instruction in Introductory Courses	Straight Television Instruction for Large Classes
	Mean	Mean
Bad-Good	2. 93	2. 70
Dishonest-Honest	4. 37	4. 39
Unfair-Fair	3. 53	2. 93
Unpleasant-Pleasant	3. 53	3. 19
Worthless-Valuable	4. 25	3. 88
Rough-Smooth	2. 93	2. 93
Weak-Strong	3. 18	2. 81
Soft-Hard	5. 18	5. 48
Passive-Active	3. 74	3. 19
Slow-Fast	4. 70	4. 81

	Television Instruction Supplemented by Small Discussion Sections for Large Classes	Television Instruction in Advanced Courses
	Mean	Mean
Bad-Good	6.18	2.70
Dishonest-Honest	4.95	3.95
Unfair-Fair	5.07	3.14
Unpleasant-Pleasant	4.51	3.37
Worthless-Valuable	5.25	4.52
Rough-Smooth	4.23	3.42
Weak-Strong	4.65	3.02
Soft-Hard	4.76	5.56
Passive-Active	4.34	3.98
Slow-Fast	4.92	4.81

	Teaching Machines	Most Professors I Have Had at ☆
	Mean	Mean
Bad-Good	4.05	5.17
Dishonest-Honest	4.73	6.03
Unfair-Fair	4.40	5.84
Unpleasant-Pleasant	3.72	5.28
Worthless-Valuable	4.66	5.68
Rough-Smooth	3.93	4.45
Weak-Strong	3.95	4.86
Soft-Hard	4.86	5.22
Passive-Active	3.82	4.77
Slow-Fast	5.19	5.78

	Most Professor I Have Had at ☆ Conducting a Lecture Course	Most Professors Conducting a Television Course
	Mean	Mean
Bad-Good	4.91	4.79
Dishonest-Honest	5.60	5.30
Unfair-Fair	5.28	4.98
Unpleasant-Pleasant	4.93	4.79
Worthless-Valuable	5.30	4.74
Rough-Smooth	3.09	3.86
Weak-Strong	4.54	4.55
Soft-Hard	5.16	4.83
Passive-Active	4.17	4.06
Slow-Fast	5.30	5.55

	Most Professors at ☆ Conducting a Large Class Mean	Most Professors at ☆ Conducting a Small Class Mean
Bad-Good	4.81	5.90
Dishonest-Honest	5.81	6.27
Unfair-Fair	5.34	6.11
Unpleasant-Pleasant	4.65	5.95
Worthless-Valuable	5.04	5.95
Rough-Smooth	3.27	4.06
Weak-Strong	4.25	5.29
Soft-Hard	5.18	4.95
Passive-Active	3.97	5.22
Slow-Fast	5.31	5.38

	Most Professors at ☆ Conducting an Introductory Course Mean	Most Professors at ☆ Conducting an Advanced Course Mean
Bad-Good	4.90	5.45
Dishonest-Honest	6.50	5.50
Unfair-Fair	5.70	5.34
Unpleasant-Pleasant	5.06	5.22
Worthless-Valuable	5.43	5.70
Rough-Smooth	3.52	3.14
Weak-Strong	4.50	5.05
Soft-Hard	5.00	5.14
Passive-Active	4.63	4.81
Slow-Fast	5.02	5.19

Section 3

Detailed Results of Content Analyses of Reports of Television Production Coordinator and Individual Professors in Experimental Groups

The following observations[*] were based on a content analysis of the report of the Television Production Coordinator. Interesting background for these observations will be evident as the reader refers again to that portion of the text that describes the video taping "experimental" phase of the present study.

I. Subjects from Department A

A. Subjects' Apparent Attitudes

1. Pro-ITV
    - a. Tried hard to cooperate
    - b. Ready to do over if not satisfactory
    - c. Used V. T. R. for improvement idea very well
    - d. Thought V. T. R. good experiment
    - e. Asked for help freely
    - f. Highly critical of self
    - g. Convinced TV can be used as "tool"
    - h. Pleased with how little time it actually took to make the tape.
    - i. Seemed to know what she wanted

2. Against ITV
    - a. Resentment of compulsory participation without relief (from teaching load) for putting lecture on TV
    - b. Apparent desire to be left off camera a great deal
    - c. Seemed rather indifferent to whole process

---

[*] Note: These observations were made before, during, and following the video-taping sessions.

2. Against ITV (Cont.)
    - d. Attitude change from enthusiastic to indifferent due to complexity of production
    - e. Instructors felt relegated to an inferior position, perhaps
    - f. Compained of wide shots
    - g. Not sold on too many charts and other visuals
    - h. Fairly hostile
    - i. Seemed fairly disinterested in the whole thing, although subject did give it a good try.
    - j. Would not look at V. T. R.
    - k. Generally disinterested
    - l. Unusual "shyness" of subject posed a serious problem

B. Performance

1. Good tape
2. A theatrical performance
3. Not very good tape to be retaped
4. Slowed down (talking speed) considerably
5. Did complete rehearsal, since subject was still unaware of what was going to happen in the studio
6. Read the script word-for-word but was still fairly effective

II. Subjects from Department B

A. Subjects' Apparent Attitudes

1. Pro-ITV
    - a. Seemed to be very enthusiastic about television
    - b. Cooperative and well-prepared
    - c. Admitted how well he got along without students around
    - d. Seemed convinced of teaching improvement possibilities
    - e. Seemed interested
    - f. Adapted to TV nicely and seemed to evaluate the experience easily
    - g. Probably a bright fellow
    - h. Cooperative and affable
    - i. Easy to direct
    - j. Worked hard at preparation
    - k. Young and cooperative
    - l. Willing to change his usual methods to utilize TV to its fullest extent

1. Pro-ITV (Cont.)
    m. Seemed to learn from and appreciate the test-tape experience
    n. Rehearsed very well
    o. Liked Mathematics series
    p. Not hostile to television
    q. Would like to see test of Television versus New Television Teaching
    r. Seemed to enjoy the whole thing

2. Against ITV
    a. Seemed to have lost some of the enthusiasm for television and in some respect seemed a little hostile to the whole thing
    b. A little worried about English Usage
    c. Extremely self-conscious
    d. Still not certain about goals of project
    e. Seemed glad the part was done with
    f. Seemed disinterested, but it was hard to tell

B. Performance

1. The VTR was rather poor
2. Final tape good, but probably only a fair use of TV's potential where Department B is concerned
3. Cooperative and well-prepared
4. Very good performance
5. Did fairly well
6. A little nervous; made several errors
7. Very nervous. Made respectable tape, however
8. Very good composure for television
9. Excellent delivery
10. Easy to direct
11. Not ruffled by camera, microphone, etc.
12. Misjudged length of lecture
13. Did superior job on retape
14. Got a little frisky and tried out ad-libbing away from the script
15. Generally a good tape
16. Rather complex control-wise
17. Tremendous use of models for demonstration
18. A little nervous but got over it
19. Method demanded extensive use of the blackboard

The following data illustrates a picture of television course preparation behavior that may be obtained from a sophisticated television production director. The Production Coordinator's Report indicates that the use of visual aids is somewhat less by Department B than by Department A.

VISUAL AIDS

	None	Some	Many
Department A	0%	57%	43%
Department B	30%	40%	30%

Pre-production tapes as well as "outside" preparation was more extensive for the "A" subjects than the "B" subjects.

PRE-PRODUCTION TAPES

	0	1	2	3
Department A	14%	45%	27%	14%
Department B	10%	90%	0%	0%

OUTSIDE PREPARATION

	None	Some	Extensive
Department A	0%	29%	71%
Department B	30%	50%	20%

The Production Coordinator's Report makes no mention of non-cooperativeness of hostility among "B" subjects with only 10% of the cases being indifferent, whereas 27% of the cases from Department "A" were reported as hostile and 14% indifferent.

COOPERATIVENESS

	Cooperative	Indifferent	(Hostile) Non-Cooperative
Department A	59%	14%	27%
Department B	70%	10%	0%

When the personal reports were rated on a scale of 1-5 for "Favor to Against", the Department B subjects showed a mean score of 2.6 where Department A showed a 3.4 mean score. This would add more weight to the contention that the "B" subjects were less personally involved and more in favor of television, whereas the "A" group was less in favor of television.

Rating (1-5) (Favor-Against) of Personal Reports

Dept. B	Dept. A
4	2
2	5
3	4
3	4
2	5
3	1
4	2
2	4
3	27
7	8 = 3.4
1	
30	
11 = 2.7	

In comparing the two departments with the results obtained on the posttest, no apparent trends were established.

Posttest Rating

	Dept. B	Dept. A
Favor	1	2
Against	4	3
Undecided	6	3

Posttest versus Personal Involvement (Judged: Personal Report)

	Greatly			None
Favor			3	
Against	1		3	3
Undecided	1	1	2	5

Posttest versus Pronoun Person of Report

	1st Person	2nd Person
Favor	2	1
Against	3	4
Undecided	3	6

The report also indicates that the self-concept among the Department B subjects is equally divided between self-satisfied and self-critical, whereas Department A is reported as being 44% self-critical and only 14% self-satisfied.

As a basis for a comparison with the television coordinator's report, individual reports on this exposure of theprofessors were content analyzed simultaneously. Using very specific categories, some rather interesting data emerged. To begin with, on the judged evaluation of "personal involvement", Department B subjects were predominately detached emotionally, with only a few cases of slight personal involvement, whereas the Department A subjects ranged from a slight personal involvement to highly personally involved, with no cases of personally detached.

Dept. B

Involved			Detached
3	2	1	0
0	0	3	8

Dept. A

Involved			Detached
3	2	1	0
2	1	5	0

There seems to be an inability of the subjects using first person pronouns in their reports to show neutrality. They tend to be somewhat "against". Whereas, those persons using predominately third person pronouns, indicating less personal involvement, cluster around the neutral -- some being able to see both advantages and disadvantages. None of these subjects using third person pronouns are strongly "against" television as a teaching device.

		1st Person	3rd Person
Favor	1	1	1
	2	2	3
	3	0	5
	4	3	2
Against	5	2	0

In regard to this trend, it was noted that from Department B only one report was written in the first person with 10 reports written in the third person, while only one report from Department A was written in the third person and 7 written in the first person.

PERSON OF REPORT

Dept. B

1st Person	3rd Person
1	10

Dept. A

1st Person	3rd Person
7	1

Person of Report

Dept. B

1st	3rd
1	10

Dept. A

1st	3rd
7	1

Organization of Report

Dept. B

Most Outline	Enumeration	Least None
5	4	0

Dept. A

Most Outline	Enumeration	Least None
1	2	4

Length of Report (in pages)

Dept. B

1/2	1	1 1/2	2	2 1/2
4	1	2	3	1

Dept. A

1/2	1	1 1/2	2	2 1/2
4	2	1	1	0

Considering the organization of those personal reports as outlined, enumerated or none, Department B was divided almost equally between "outline" and "enumerated" with no "non-organized" (extemporaneous) report, whereas in the case of the Department A reports, only one report was outlined, two enumerated, and the remaining majority in an extemporaneous form.

The more highly organized papers (that is, those papers using outline format) ranged from being very favorable to the television to being mildly against; but none were highly against. Whereas, those papers showing no organization ranged from being highly opposed to the use of television to being mildly in favor of it, with none being highly in favor. Those persons showing a medium amount of organization in their papers (that is, enumeration) clustered about the middle of the scale and tended to see advantages or disadvantages.

A. - Organization vs. Subjective Evaluation

		Outline	Enumeration	None
Favor	1	1	1	
	2	2	2	1
	3	1	4	
	4	3	1	1
Against	5			2

B. - Organization vs. Personal Involvement

		Outline	Enumeration	None
Very Involved	3			2
	2			1
	1	4	3	1
Detached	0	3	5	

C. - Organization of Report vs. Posttest

	Outline	Enumeration	None
Favor		2	1
Against	3	4	1
Undecided	4	3	2

Personal Involvement vs. Judged Rating (Favor-Against) from Personal Reports

		Favor						Against
			1	2	3	4	5	
Involved	3						2	
	2					1		
	1		1	3	1	3		
Uninvolved	0		1	2	4	1		

An inspection of the judged (Favor vs. Against) rating of the personal reports vs. personal involvement (as indicated in the reports) show that those subjects not personally involved and those mildly personally involved are dispersed from favoring to mildly against, with the majority being centered at the mid-point. Also the most highly emotionally involved are the strongest "against" subjects.

DEPARTMENT A

Visual Aids

None	Some	Many
0	4	3
0%	57%	43%

Preparation (Outside)

None	Some	Extensive
0	2	5
0%	29%	71%

Self-Concept

Openly Self-Critical		Self-Satisfied
3	3	1
44%	42%	14%

Cooperativeness

Cooperative	In-Different	Hostile/Non-Cooperative
4	1	2
59%	14%	27%

DEPARTMENT B

Visual Aids

None	Some	Many
3	4	3
30%	40%	30%

Preparation (Outside)

None	Some	Extensive
3	5	2
30%	50%	20%

Self-Concept

Openly Self-Critical		Self-Satisfied
4	2	4
40%	20%	40%

Cooperativeness

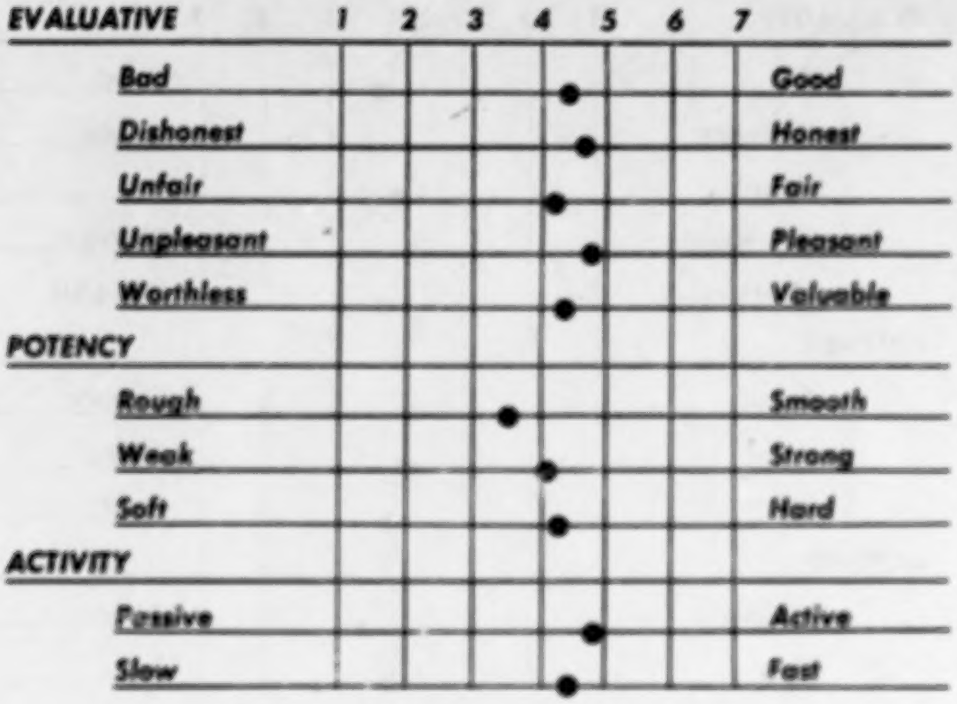
Cooperative	In-Different	Hostile/Non-Cooperative
7	1	2
70%	10%	20%

Section 4

Graphic Representations of Mean Scale Values of the Osgood Questions

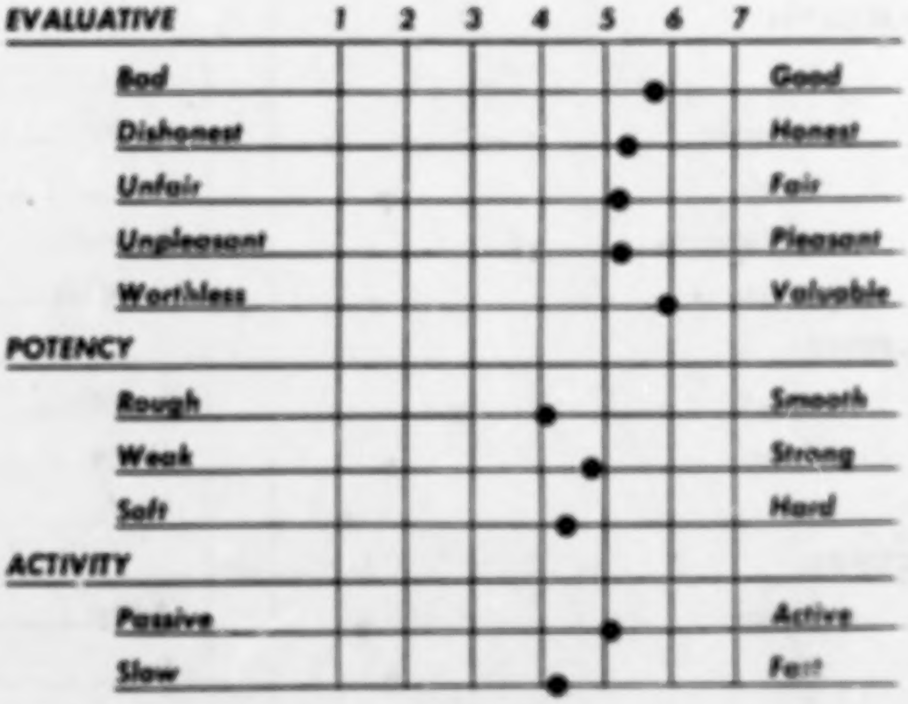
Graphic Representation of Mean Scale Values for the Osgood Question

"FRONTIER FIESTA"



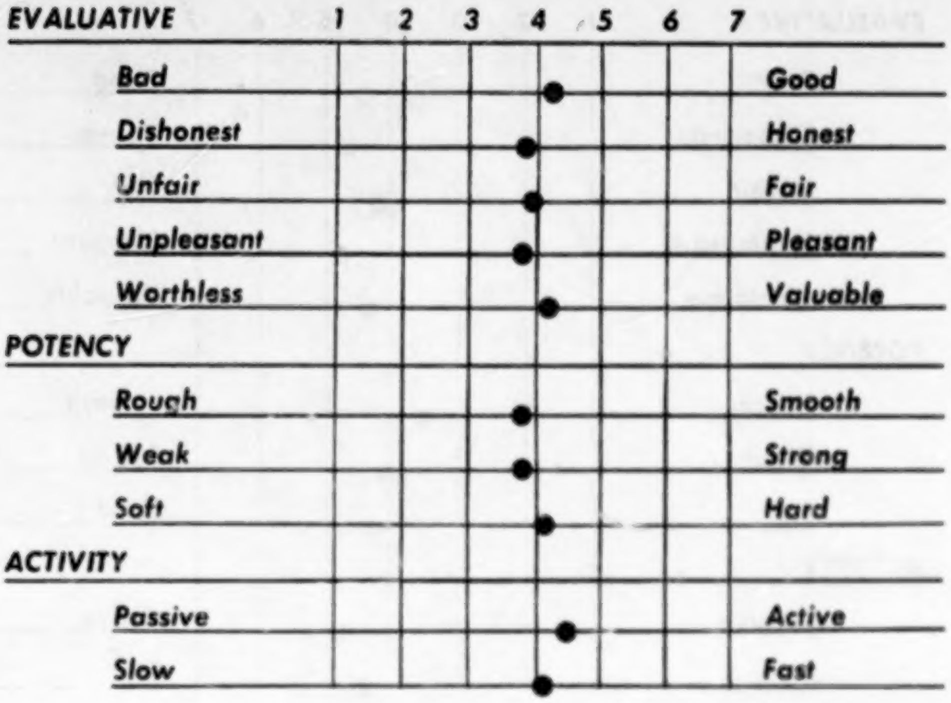
Graphic Representation of Mean Scale Values for the Osgood Question

"NIGHT STUDENTS"



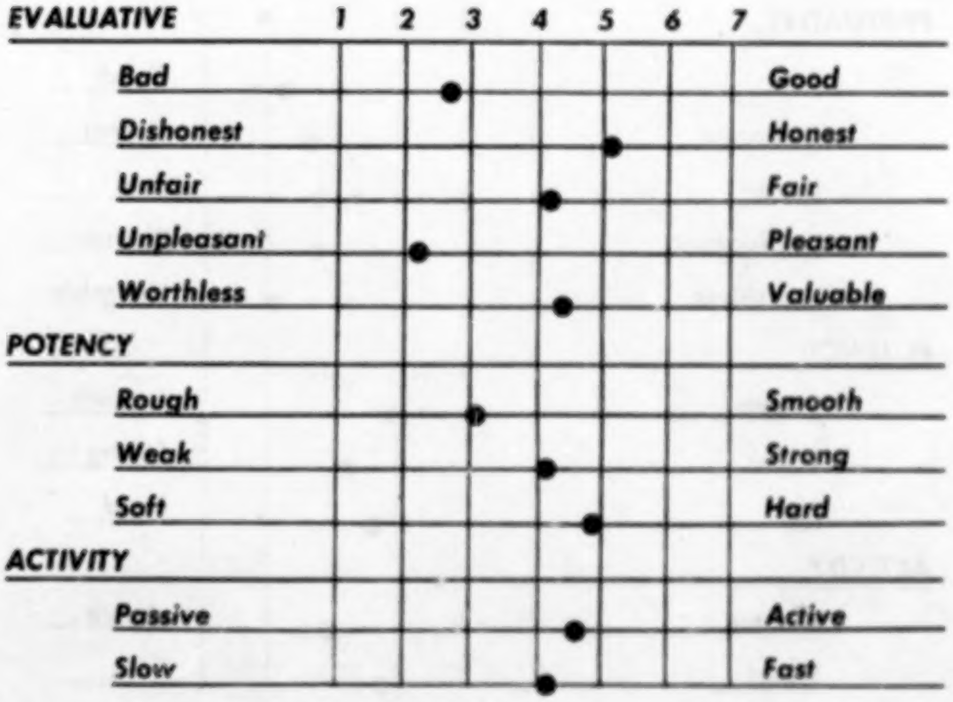
Graphic Representation of
Mean Scale Values for the Osgood Question

"ATHLETIC SCHOLARSHIPS"



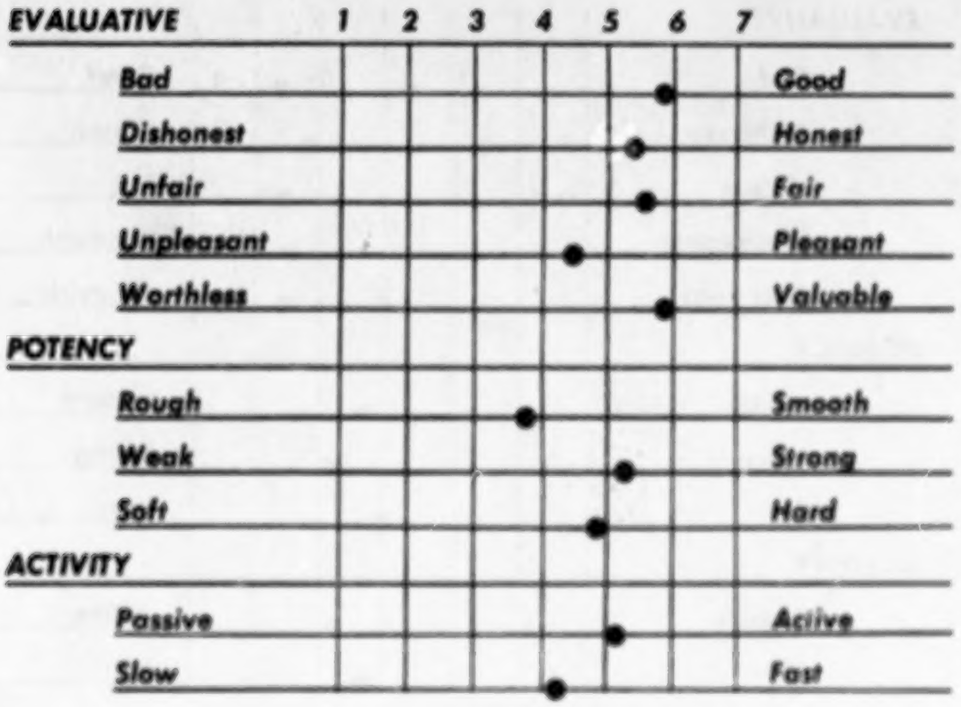
Graphic Representation of
Mean Scale Values for the Osgood Question

"ADDITIONAL TUITION INCREASE"



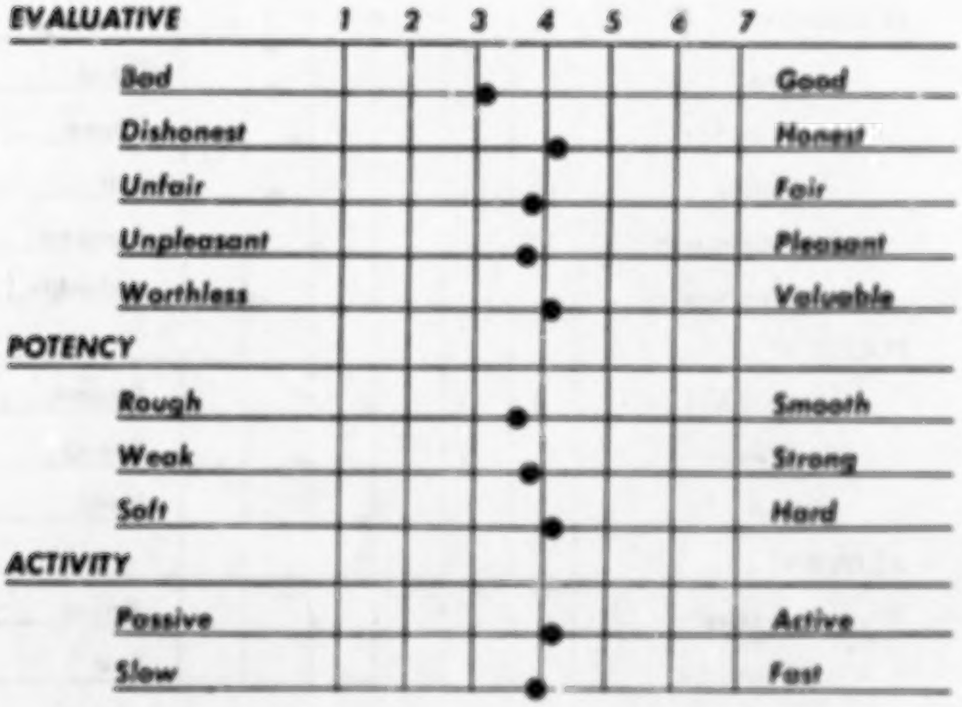
Graphic Representation of Mean Scale Values for the Osgood Question

"HIGHER ENTRANCE REQUIREMENTS FOR UNIVERSITY OF HOUSTON"



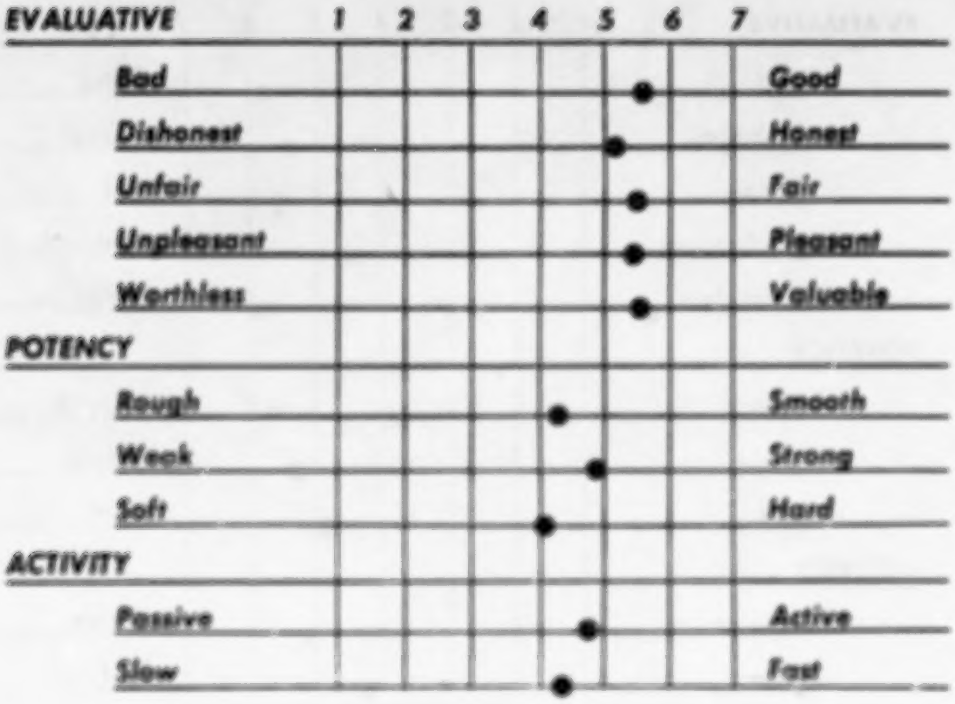
Graphic Representation of Mean Scale Values for the Osgood Question

"MORE FRINGE BENEFITS, WITH SMALLER SALARY INCREASE"



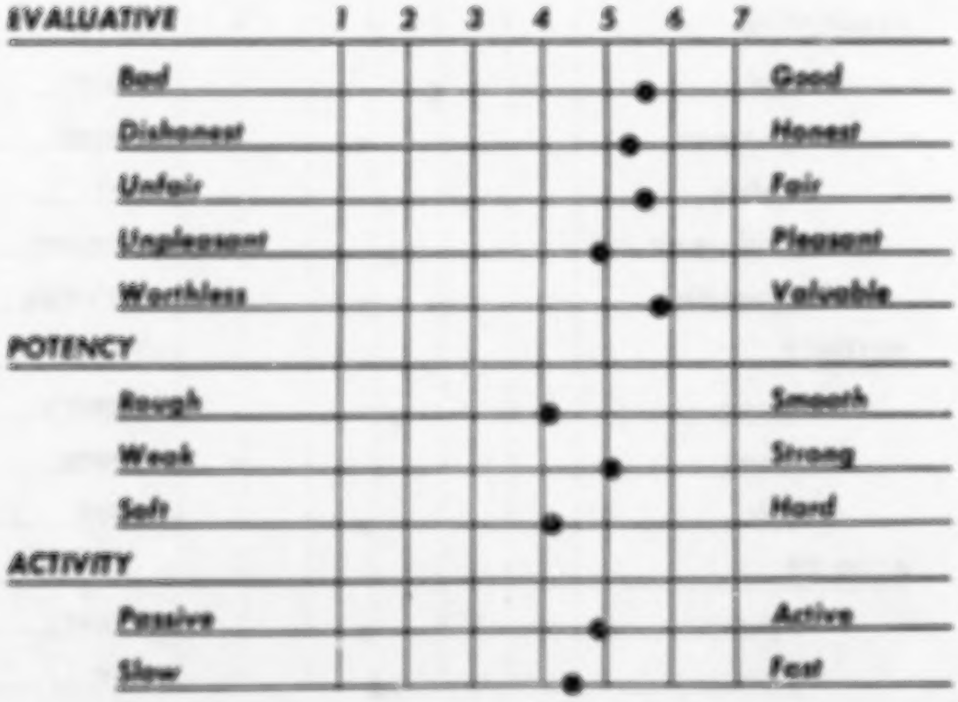
Graphic Representation of Mean Scale Values for the Osgood Question

"LARGER SALARY INCREASE, WITH FEWER ADDITIONAL FRINGE BENEFITS"



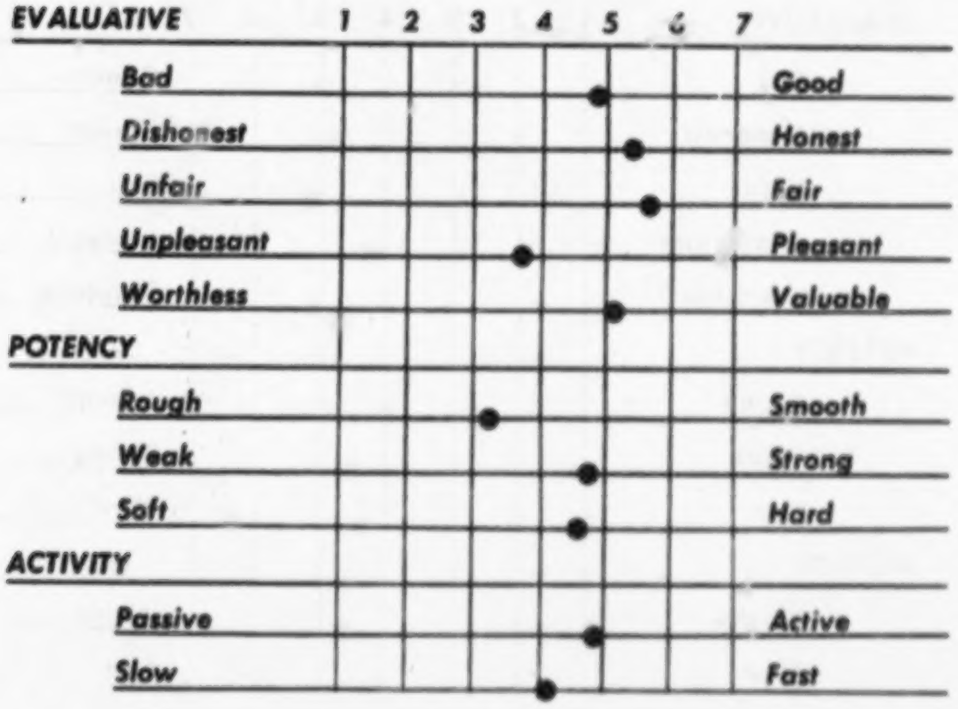
Graphic Representation of Mean Scale Values for the Osgood Question

"UNIVERSITY OF HOUSTON BECOMING A STATE UNIVERSITY"



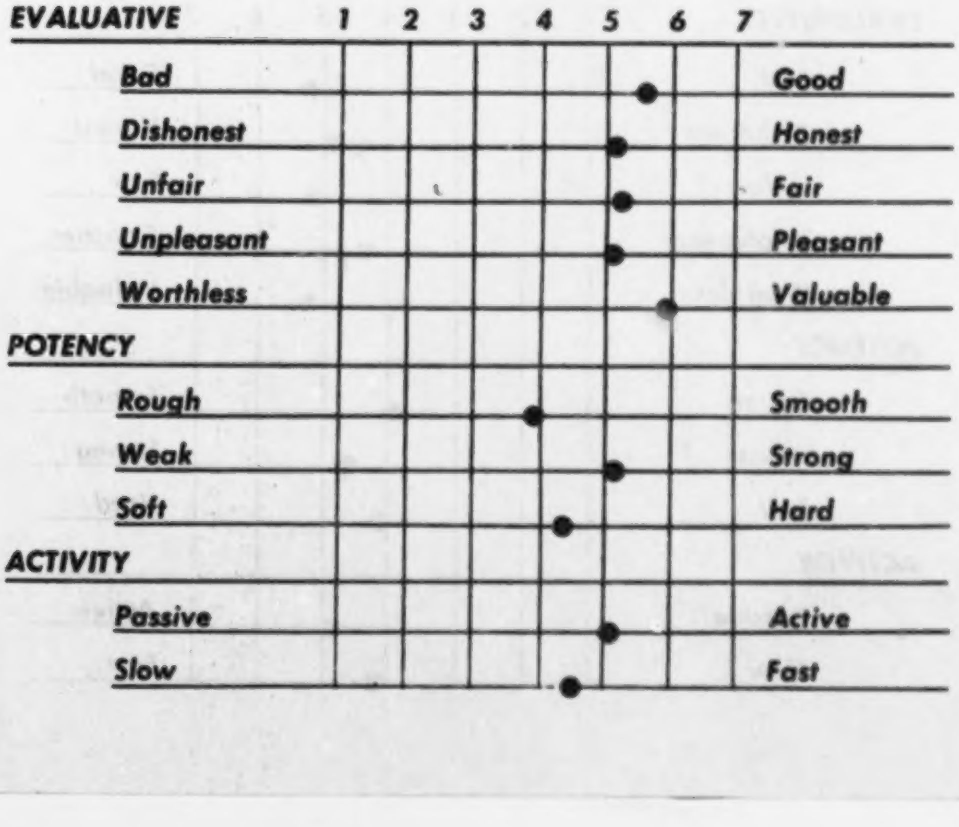
Graphic Representation of
Mean Scale Values for the Osgood Question

"ADMITTING QUALIFIED NEGROES TO UNIVERSITY OF HOUSTON"



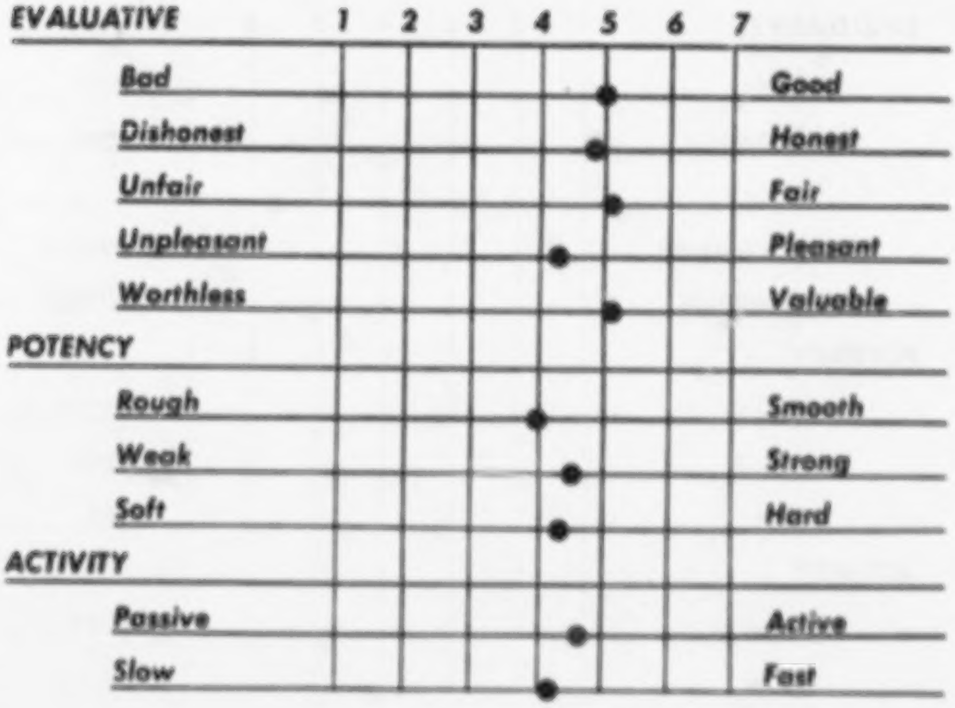
Graphic Representation of
Mean Scale Values for the Osgood Question

"EMPHASIS ON RESEARCH AT UNIVERSITY OF HOUSTON"



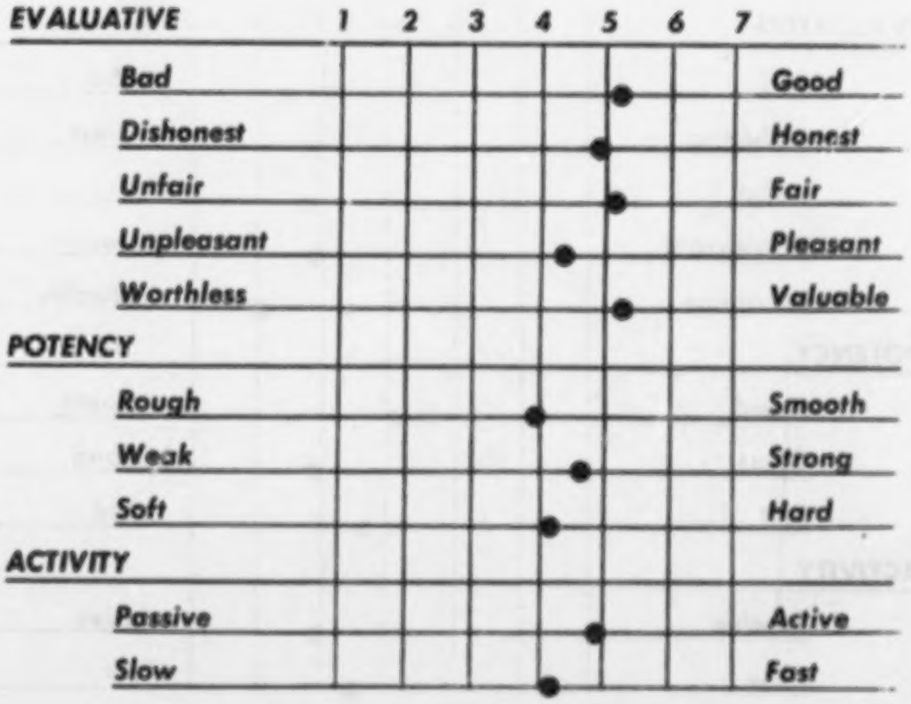
Graphic Representation of Mean Scale Values for the Osgood Question

"TRAINING IN TEACHING METHODS FOR PROFESSORS"



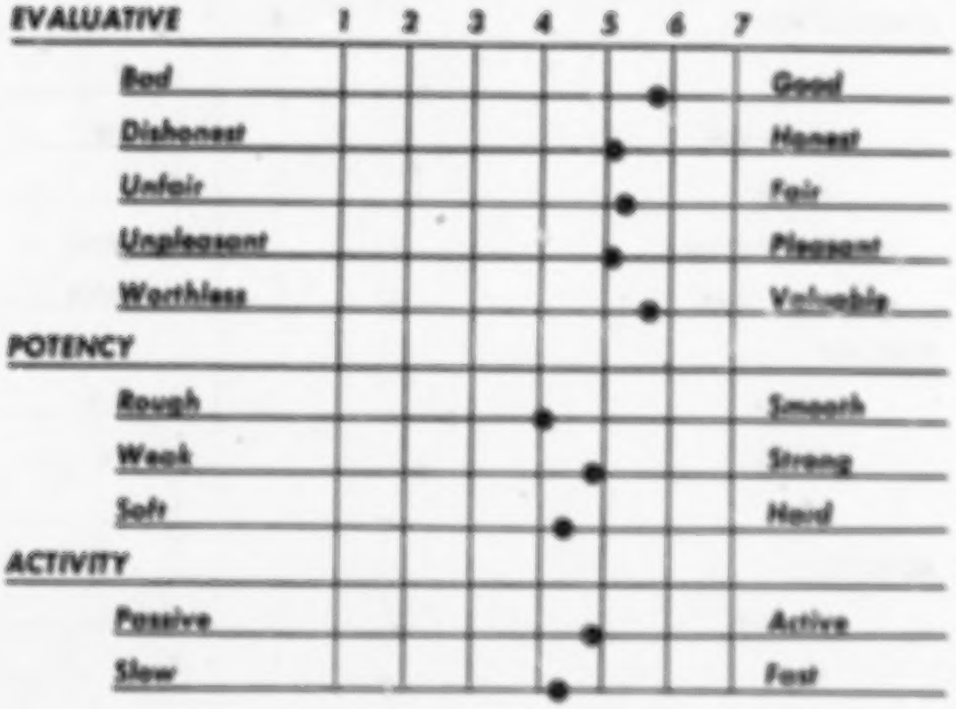
Graphic Representation of Mean Scale Values for the Osgood Question

"TRAINING IN TEACHING METHODS
FOR PROSPECTIVE PROFESSORS"



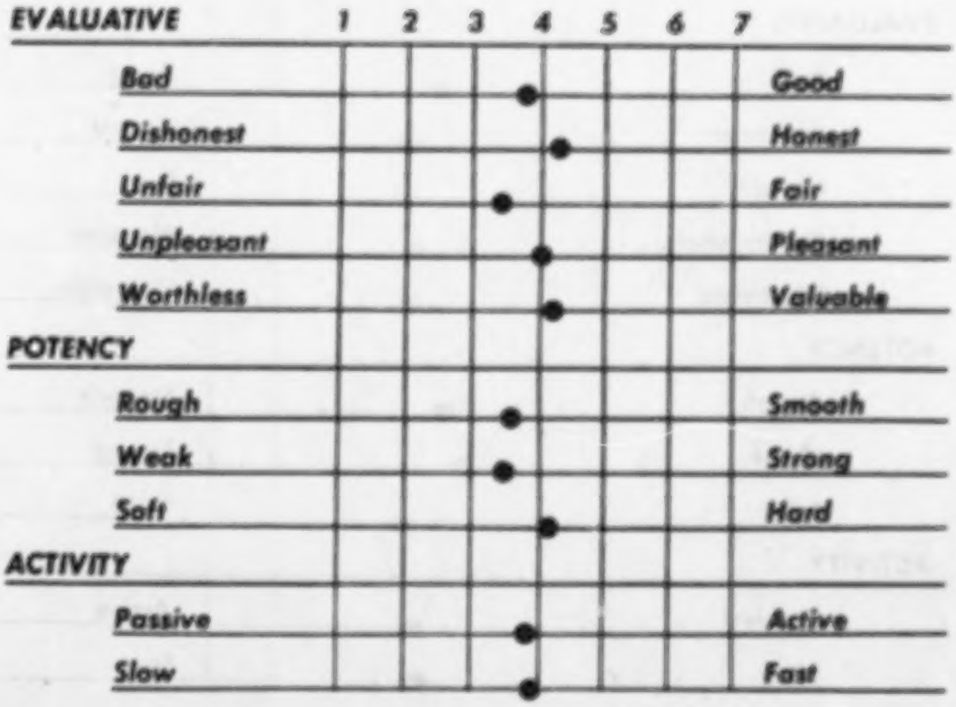
Graphic Representation of Mean Scale Values for the Osgood Question

"LECTURE METHOD SUPPLEMENTED BY SMALL DISCUSSION SECTIONS FOR LARGE CLASSES"



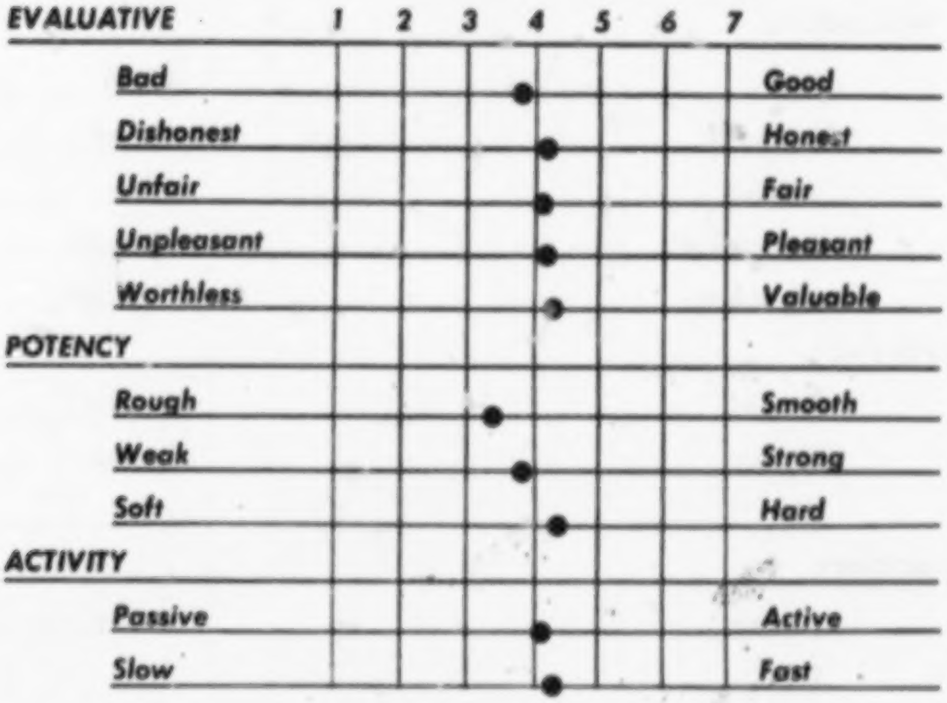
Graphic Representation of Mean Scale Values for the Osgood Question

"STRAIGHT LECTURE METHOD FOR LARGE CLASSES"



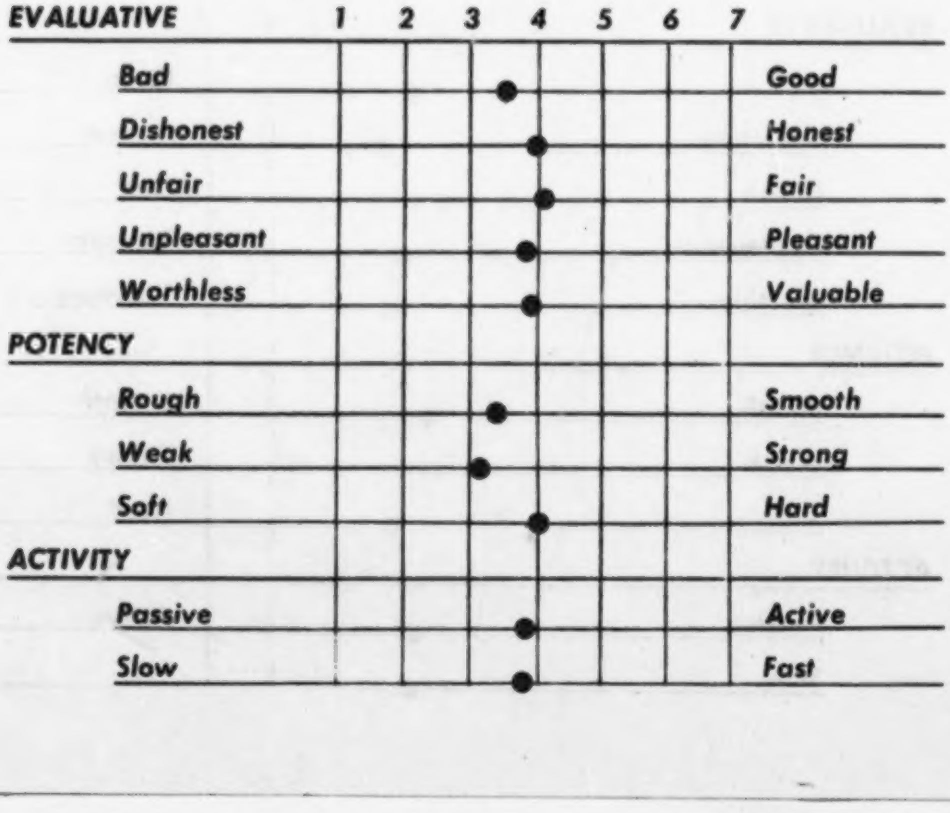
Graphic Representation of Mean Scale Values for the Osgood Question

"HONORS COURSES CONSISTING ONLY OF TEXTBOOKS AND FINAL EXAMINATIONS"



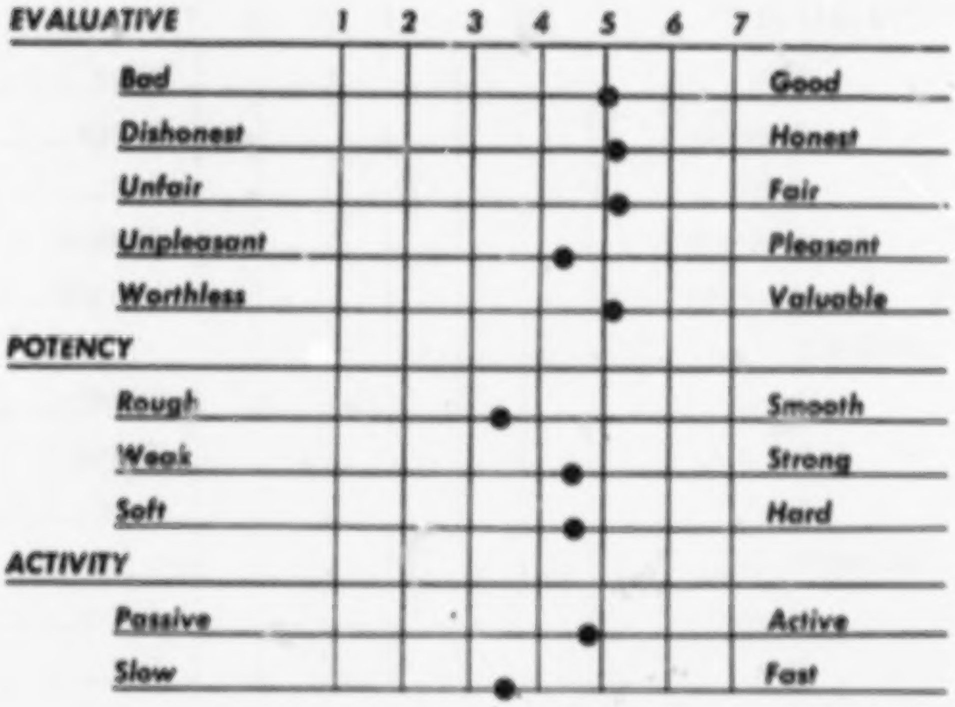
Graphic Representation of Mean Scale Values for the Osgood Question

"CORRESPONDENCE COURSES"



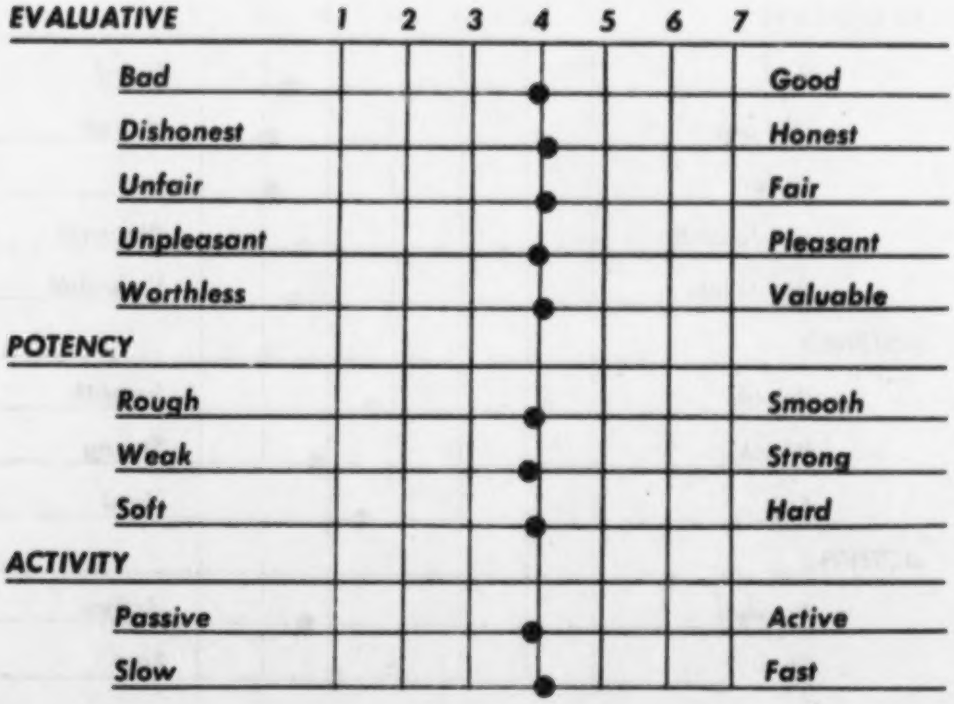
Graphic Representation of Mean Scale Values for the Osgood Question

"ANSWERING STUDENTS' QUESTIONS IN LARGE CLASSES"



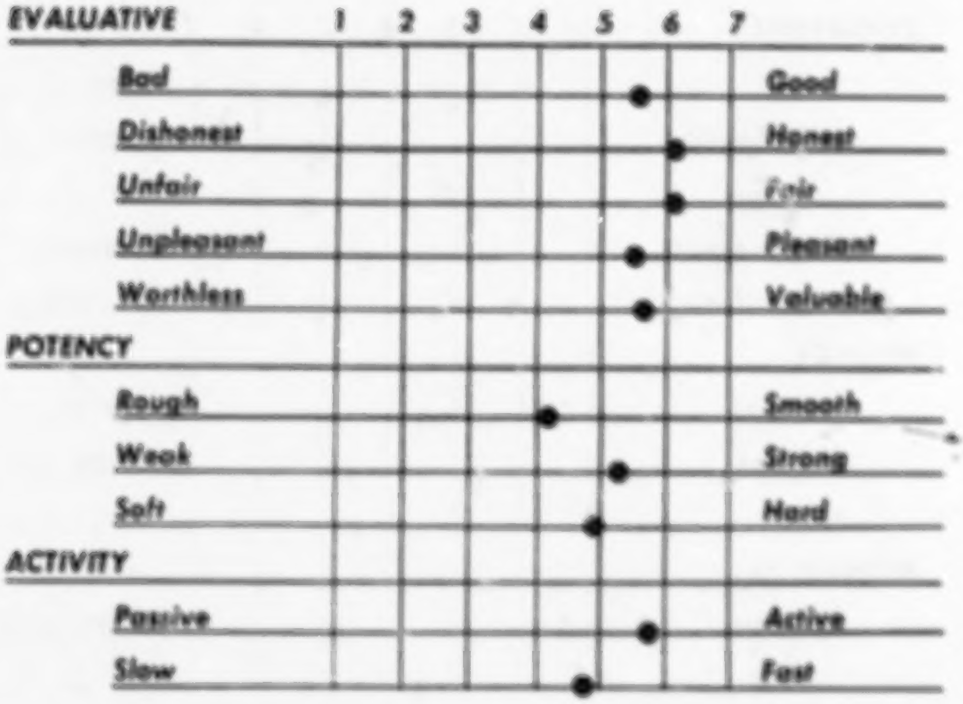
Graphic Representation of Mean Scale Values for the Osgood Question

"TEACHING MACHINES"



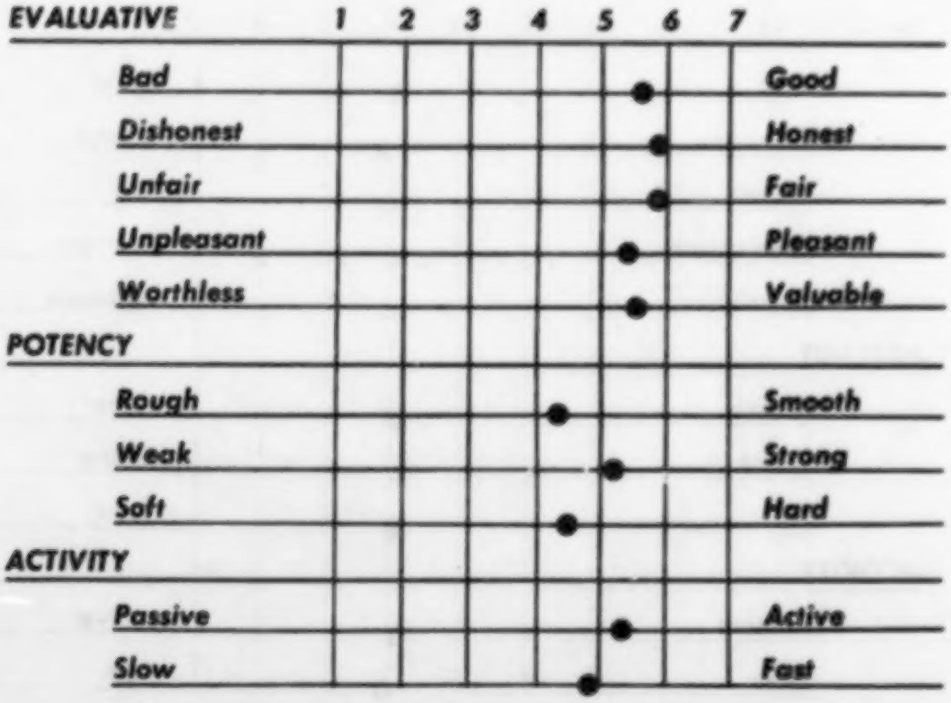
Graphic Representation of Mean Scale Values for the Osgood Question

"MYSELF AS A PROFESSOR"



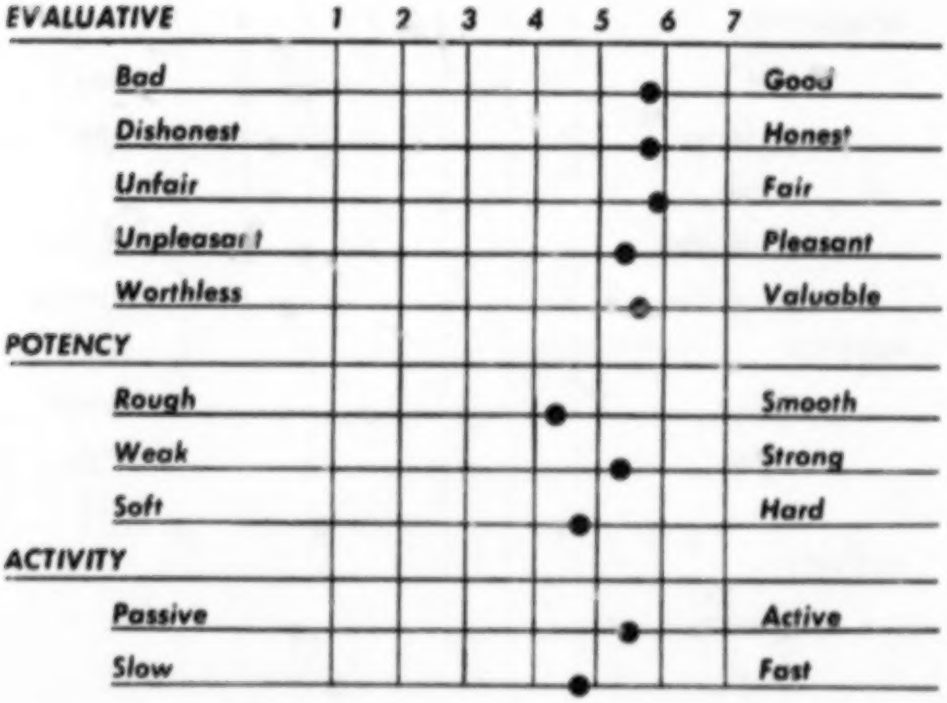
Graphic Representation of Mean Scale Values for the Osgood Question

"MYSELF CONDUCTING A LECTURE COURSE"



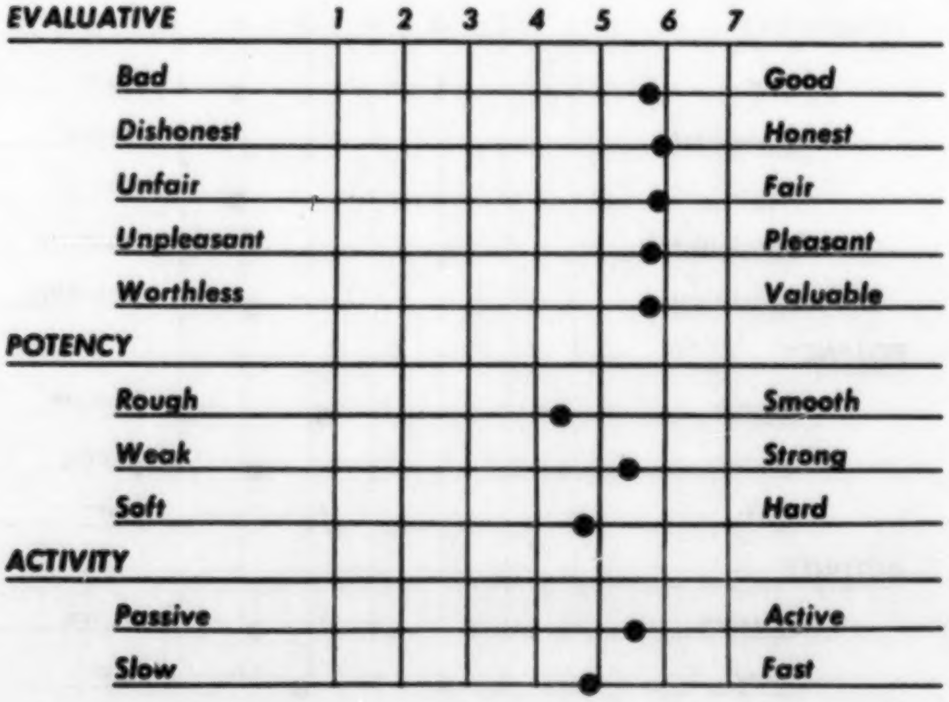
Graphic Representation of Mean Scale Values for the Osgood Question

"MYSELF CONDUCTING AN INTRODUCTORY COURSE"



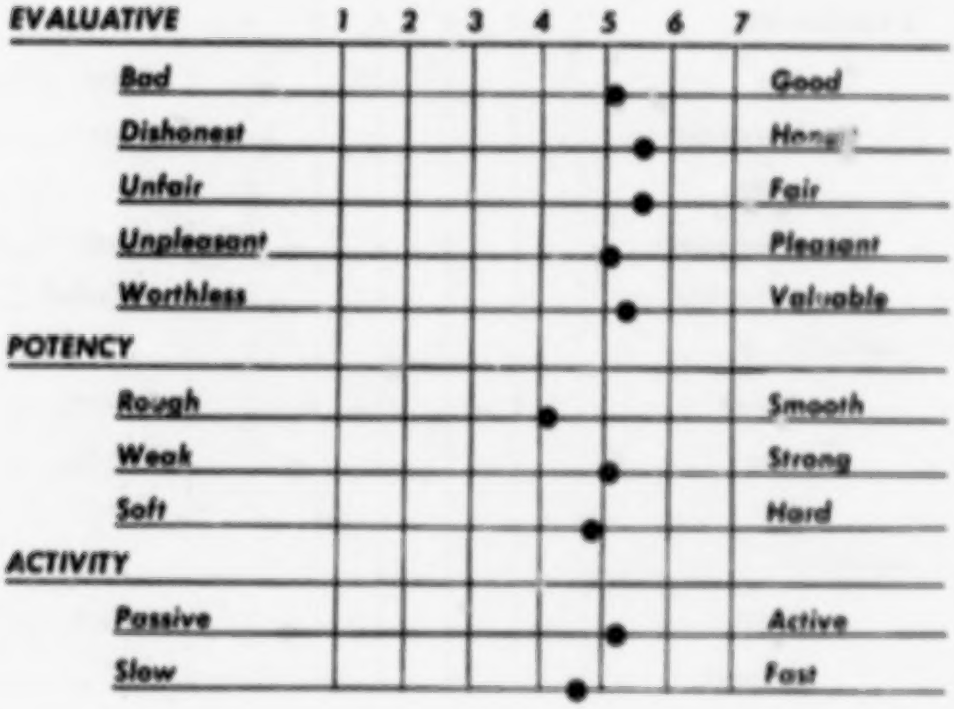
Graphic Representation of Mean Scale Values for the Osgood Question

"MYSELF CONDUCTING AN ADVANCED COURSE"



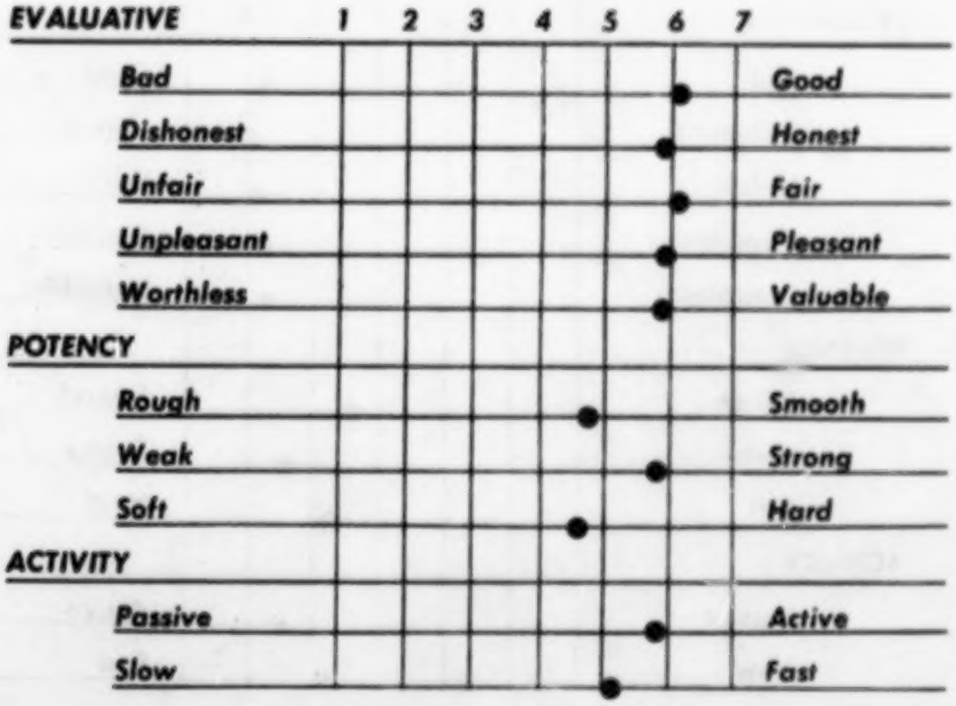
Graphic Representation of Mean Scale Values for the Osgood Question

"MYSELF CONDUCTING A LARGE CLASS"



Graphic Representation of Mean Scale Values for the Osgood Question

"MYSELF CONDUCTING A SMALL CLASS"



Graphic Representation of Mean Scale Values for the Osgood Question

"MYSELF DOING PUBLISHABLE RESEARCH"